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IN THE
Supreme Court of the United States
OCTOBER TERM, 1983

ALABAMA POWER Co., *et al.*,
Petitioners,

v.

SIERRA CLUB, *et al.*,
Respondents.

**PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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February 28, 1984

QUESTIONS PRESENTED

1. Whether, instead of independently construing technical statutory terms—terms that will determine if a State must use contrary-to-fact “stack height” assumptions in revising its State Implementation Plan under § 110 of the Clean Air Act—the Court of Appeals was required to give “legislative effect” to EPA’s rule-making application of those terms when § 123 of the Clean Air Act specifically directs that their meaning be determined by EPA through rulemaking?

2. Whether the Court of Appeals was correct in ordering EPA to disregard historical engineering practice and to develop “Good Engineering Practice” (GEP) rules that will require comprehensive State Implementation Plan revisions, when the legislative history of § 123 indicates that EPA could rely on historical practice in defining GEP and when such State Implementation Plan revisions

- (a) are not needed to assure compliance with the public health and welfare-based ambient air quality standards;
- (b) will impose great complexities on the already complex air pollution control programs being administered by the States; and
- (c) could require fuel switching, new control technologies or both, costing hundreds of millions of dollars?

3. Whether the Court of Appeals (which clearly misunderstood the effect of EPA’s “plume impaction” rule) was correct in ordering EPA to require the States to use contrary-to-fact assumptions that only apply to sources located in hilly or mountainous parts of the country, when the consequences of using such contrary-to-fact assumptions were never considered by Congress in enacting § 123 and when the use of these assumptions will result in State Implementation Plan revisions which will

- (a) in the words of the Court of Appeals, “harshly discriminate” against both existing facilities and

new development in hilly or mountainous regions of the country; and

- (b) impose pollution control costs that are billions of dollars more than the costs associated with the emission limitations that would be required for identical, or even more polluting, sources located in flat terrain?

PARTIES TO THE PROCEEDING

This case involves challenges to final regulations promulgated by EPA under § 123 of the Clean Air Act, 42 U.S.C. § 7423. Sierra Club and Natural Resources Defense Council (NRDC) were petitioners in Case Nos. 82-1384 and 82-1845. The Commonwealth of Pennsylvania was petitioner in Case Nos. 82-1412 and 82-1889. These cases were consolidated on August 18, 1982. The U.S. Environmental Protection Agency was the Respondent in all of these proceedings. Petitioners, Alabama Power Co., 66 other individual electric utilities,* the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association intervened on behalf of Respondent EPA in all of these proceedings. The American Petroleum Institute, Gulf Oil Co., Shell Oil Co., Standard Oil Co. (Indiana) and Texaco Co. also intervened on behalf of Respondent in all of these proceedings. Kennecott Minerals Co. and Tennessee Valley Authority intervened on behalf of Respondent EPA in Case No. 82-1384. The State of Vermont, the State of New York, the Commonwealth of Massachusetts, the State of Rhode Island and the State of New Hampshire intervened jointly on behalf of Petitioners Sierra Club and NRDC in Case No. 82-1384. These states also intervened on behalf of the Commonwealth of Pennsylvania in Case No. 82-1412.

* A list including the names of the individual companies that comprise Petitioners Alabama Power Co., *et al.*, and all parent companies, subsidiaries, and affiliates is contained in the supplemental appendix attached to this Petition pursuant to Rule 28 of this Court.

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Alabama Power Co., 66 other individual electric utilities,¹ the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association, respectfully petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the District of Columbia Circuit entered in this proceeding on October 11, 1983.²

¹ The 67 individual utility petitioners and their parent companies, subsidiaries, and affiliates are set forth in the supplemental appendix attached to the petition pursuant to Rule 28 of this Court.

² The court below had jurisdiction of these cases under § 307 (b) (1) of the Clean Air Act, 42 U.S.C. § 7607(b) (1) (Supp. V 1981), which provides the District of Columbia Circuit with exclusive jurisdiction to review any "nationally applicable regulations . . . promulgated by the Administrator"

OPINIONS BELOW

The opinion in the Court of Appeals in *Sierra Club, et al. v. EPA*, Nos. 82-1384, 82-1412, 82-1845, 82-1889 (D.C. Cir. October 11, 1983), is reported at 719 F.2d 436. A copy of the opinion appears in the Appendix hereto (hereinafter referred to as "App. —") at 1a-69a.

JURISDICTION

The judgment of the Court of Appeals for the D.C. Circuit was entered on October 11, 1983. A timely Petition for Rehearing and Suggestion for Rehearing *En Banc* were denied on December 13, 1983, App. 70a, 72a, and this petition for certiorari is being filed within 90 days of that date. This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1) (1976).

STATUTORY AND REGULATORY PROVISIONS INVOLVED

The following statutory and regulatory provisions are set forth in the Appendix:

1. Clean Air Act §§ 101, 110(a)(1)-(a)(2)(J), 123, 42 U.S.C. §§ 7401, 7410(a)(1)-(a)(2)(J), 7423 (Supp. V 1981), App. 106a-111a.
2. 38 Fed. Reg. 25697, *et seq.* (1973) (Initial Guidance on Use of Supplementary Control Systems), App. 103a-105a.
3. 47 Fed. Reg. 5864, *et seq.* (1982) (Final Stack Height Rules), 40 C.F.R. § 51.1(z), (ff)-(mm), § 51.12(j)-(l), § 51.18(l) (1983), App. 80a-102a.

STATEMENT OF THE CASE

Section 110 of the Clean Air Act establishes a federal-state partnership to implement federal ambient air quality requirements. Since the Clean Air Act was amended in 1970 to initiate this exercise in federalism, this Court has been requested on five occasions to review decisions of the Courts of Appeals that have called upon EPA to

redirect aspects of the federal-state clean air program. Each of these cases involved one or more decisions by the Courts of Appeals rejecting EPA's interpretation of its obligations under § 110. Reflecting the importance of such cases to the federal government and to each of the 50 states which are bound by EPA guidance, certiorari was granted in each instance.³

The decision of the Court of Appeals for the District of Columbia Circuit in this case, like the other five cases in which this Court has granted certiorari, calls into question the continuation of the current federal-state system of implementing ambient air quality requirements. In the exercise of its exclusive jurisdiction under the Clean Air Act, the court below has required EPA to rewrite very technical regulations dealing with the amount of "stack height" that can be assumed by the states in setting emission limitations in the "implementation plans" required under § 110 of the Act. While the subject matter may be arcane, the social and economic consequences that flow from the court's decision are staggering, equaling or surpassing those presented in previous cases reviewed by this Court.

If the decision of the court below is allowed to stand, air quality regulation in the fifty states will undergo a dramatic redirection as the states are required to substitute false stack height assumptions for actual stack height. As a result, abatement of real pollution problems will no longer be the primary focus of state air pollution programs. Instead, the states will be required

³ One case resulted in affirmance by an equally divided court. *Fri v. Sierra Club*, 412 U.S. 541 (1973). One never reached decision. *Montana Power Co. v. EPA*, Nos. 76-529, *et al.*, *cert. granted*, 430 U.S. 953 (1977), *vacated and remanded*, 434 U.S. 809 (1977). One is awaiting decision. *Chevron U.S.A., Inc. v. NRDC*, Nos. 81-1005, *et al.*, *cert. granted*, 103 S.Ct. 2427 (1983). The remaining two resulted in opinions rejecting Circuit Court decisions that failed to defer to EPA's construction of the Act. *Train v. NRDC*, 421 U.S. 60 (1975); *Union Electric Co. v. EPA*, 427 U.S. 246 (1976).

to develop emission limitations for existing sources and to regulate new source growth on the basis of theoretical, not actual, ambient pollution concentrations predicted by falsely assuming that emissions are released from a short smokestack. Not only will this judicially-imposed shift in focus entail the imposition of substantial economic costs, but it will make administration of ambient air quality programs of the states infinitely more complex. *See infra* pp. 27-29.

The District of Columbia Circuit's decision in this case thus calls for a more fundamental revision of § 110 regulatory programs than is involved in the *Chevron* case that is currently pending before this Court (Nos. 82-1005, *et al.*). It presents as extreme a restriction on the discretion of the states to revise emission limitations as was involved in *Train v. NRDC*, 412 U.S. 60 (1975). It calls for the imposition of emission controls without regard to costs, as required by *Union Electric*, but in a setting which lacks the public health justifications underlying this Court's holding in *Union Electric*, 427 U.S. 246, 258-59 (1976). As explained below, the need for review here is as compelling as it was in any of the prior cases accepted by this Court.

I. THE STATUTE

The Clean Air Act⁴ establishes a system of air quality regulation that is based upon "National Ambient Air Quality Standards" ("ambient standards") and Prevention of Significant Deterioration ("PSD") "increments".⁵

⁴ 42 U.S.C. §§ 7401, *et seq.* (Supp. V 1981) (hereinafter referred to as "CAA" or "the Act"). (For convenience, all further citations will be to the Act. Parallel citations to the U.S. Code are given in the Table of Authorities.)

⁵ The ambient standards define maximum ground level concentrations of pollution which, if attained, will assure protection of public health and welfare. CAA §§ 108, 109. The PSD increments define the maximum increases in ground level concentrations that are allowed to occur as a result of new construction in areas where the ambient standards are met. CAA § 163.

Under § 110 of the Act, the states must set emission limitations for individual sources to ensure that their emissions will not cause or contribute to ground level pollution concentrations that exceed the ambient standards or PSD increments.

Dispersion of pollution after release from a source and before it reaches ground level is essential to the operation of the § 110 federal-state programs. If there were no dispersion, it would not be possible to operate any industrial fuel burning facility without creating pollution concentrations that exceed ambient air quality standards and PSD increments by factors of many thousand.* In other words, industrial activity and protection of the public health could not co-exist without dispersion. Dispersion, therefore, will determine the type of fuel a source can use, what control technologies it must install, and where it can be built.

Section 123 of the Act was added in 1977 and addresses a question which goes to the heart of the § 110 system of air quality regulation—when must the states assume that a source's emissions will reach the ground in a less dispersed (i.e., more concentrated) condition than is happening in fact? If this false dispersion assumption is broadly applied, state air quality regulation will shift its focus from actual pollutant concentrations to wholly theoretical ones.

A. The Long-Standing Engineering and Regulatory Practice

Engineering standards have traditionally required that industrial facilities build stacks tall enough to avoid

* For example, if the emissions from a well-controlled source (e.g., a power plant meeting the stringent EPA new source standards) were released at ground level, they would create ambient concentrations of sulfur dioxide (SO_2) in the range of 900,000 micrograms per cubic meter. By comparison, the primary (public health) ambient standard for SO_2 is 365 micrograms per cubic meter (24-hour calendar day average), and the Class II PSD increment is 91 micrograms per cubic meter (24-hour calendar day average).

atmospheric turbulence which could drive the concentrated emissions plume directly to the ground (a phenomenon called "downwash"). As early as the 1930s, sources built stacks based upon a conservative "good engineering practice" (GEP) formula that required stacks in flat terrain to be built to a height equal to at least 2.5 times the height of the source in order to avoid excessive ground level concentrations caused by downwash.⁷ In mountainous terrain, additional stack height was often necessary to avoid excessive concentrations due to downwash caused by terrain obstacles.⁸ Although most sources followed these engineering principles in designing stacks, larger-than-GEP smokestacks were built by certain sources in order to obtain more dispersion and hence relaxed emission limitations.

To eliminate the pollution control advantages that might be associated with building stacks taller than GEP height, EPA adopted the traditional GEP concept in regulatory guidance issued in response to litigation in 1973,⁹ and revised in 1976.¹⁰ Under the 1973 guidance, a source could automatically increase stack height up to 2.5 times source height and the states could use that stack height in determining emission limitations under § 110. The guidelines further noted that a source in rugged terrain might need stack height greater than 2.5

⁷ See, e.g., Briggs, Gary A., *Plume Rise*, Oak Ridge: U.S. Atomic Energy Commission (1969); U.S. Environmental Protection Agency, *Guideline for the Determination of Good Engineering Practice Stack Height* (Technical Support Document for the Stack Height Regulations) (July 1981, with addendum of December 15, 1981) (hereinafter referred to as "GEP Guidelines") at 7-9, Appendix A. See also EPA 1973 Stack Height Guidelines, 38 Fed. Reg. 25697, 25700 (1973), App. 103a-104a.

⁸ GEP Guidelines at 24-26, Appendix A.

⁹ 38 Fed. Reg. 25697, *et seq.* (1973), App. 103a-105a.

¹⁰ 41 Fed. Reg. 7450, *et seq.* (1976); see *NRDC v. EPA*, 529 F.2d 755, 760 (5th Cir. 1976).

times source height to prevent problems associated with reduced dispersion caused by rugged terrain.¹¹

B. The Clean Air Act Amendments

Congress added § 123 to the Clean Air Act in 1977 in order to codify the court decisions¹² and pre-existing regulatory guidance on GEP stack height.¹³ Under § 123, a state must assume that a source's emissions are released from a stack that is no higher than GEP height whenever actual stack height exceeds GEP height. Thus, if an actual stack is found to be taller than GEP, emission limitations for that source and surrounding sources must be based upon the theoretical, more concentrated ground level pollution that would result from assuming the shorter GEP stack height.

Congress' objectives in adding § 123 to the Act were two-fold. On the one hand, Congress wanted to provide a clear statutory basis for the principle that sources that had built stacks higher than GEP height could not obtain relaxed emission limitations based upon the greater dispersion to ground level associated with such tall stacks.¹⁴ On the other hand, Congress wanted to

¹¹ 38 Fed. Reg. 25700 (1973), App. 104a.

¹² *NRDC v. EPA*, 529 F.2d 755 (5th Cir. 1976); *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16 (6th Cir. 1975), *cert. denied*, 425 U.S. 934 (1976); *Kennecott Copper Corp. v. EPA*, 526 F.2d 1149 (9th Cir. 1975), *cert. denied*, 425 U.S. 935 (1976); *NRDC v. EPA*, 489 F.2d 390 (5th Cir. 1974).

¹³ See H.R. Rep. No. 294, 95th Cong., 1st Sess. 93 (1977), reprinted in, The Environmental Policy Division of the Congressional Research Service of the Library of Congress, *A Legislative History of the Clean Air Act Amendments of 1977* 2560 (1978) (hereinafter referred to as "1977 Legis. Hist.")

¹⁴ *Id.* Congress, as reflected in the House Report, was concerned that if it allowed sources to use greater-than-GEP stack height (i.e., tall stacks) as an alternative to emission controls, a number of adverse consequences might ensue. Congress discussed "long range transport" and "acid rain" in this regard. It should be emphasized

make it clear in § 123 that the amount of dispersion to ground level associated with GEP stack height should be credited in setting emission limitations.¹⁵ In other words, § 123 reflects Congress' understanding that the amount of dispersion associated with GEP stack height was integral to any proper emissions control program.¹⁶

In § 123, Congress directed that GEP be "determined under regulations promulgated by the Administrator." CAA § 123(a)(1), App. 110a. Three general criteria were set forth by Congress to guide the Agency in its exercise of this broad grant of rulemaking authority.

First, Congress directed that GEP be defined in a manner "to insure" that "nearby" structures or terrain will not create downwash that "result[s] in excessive concentrations of any air pollutant." CAA § 123(c) (emphasis added), App. 111a. The meaning of technical terms underlying the GEP concept (such as "excessive concentrations" and "nearby") were to be "determined by the Administrator," subject to the conservative "to insure" standard. *Id.* Second, Congress specified that GEP

that these "adverse effects" cited in the House Report were those that would, it was believed, flow from abandoning emission controls in favor of increased tall stack dispersion. In other words, this legislative history explained why Congress was codifying past practice in § 123 *rather than repealing it*. See H.R. Rep. No. 95-294 at 84-88, 93, 1977 *Legis. Hist.* at 2551-555, 2560. It should also be emphasized that § 123 is not written to require the development of any kind of rational "long range transport" or "acid rain" control measures. Rather, § 123 requires that emission limitations be set in terms of theoretical, local concentrations, and not the far-field downwind deposition that is asserted to have a public health or welfare significance. Indeed, the Administration and Congress are presently in the throes of addressing the need for acid rain legislation. See S.768, 98th Cong., 1st Sess. (1983); Washington Post, February 3, 1984, at A17, col. 1.

¹⁵ H.R. Rep. No. 95-294 at 93, 1977 *Legis. Hist.* at 2560.

¹⁶ *Id.*; see *supra* note 6 and accompanying text.

rules may not allow stack height credit in excess of "two and a half times the height of such source [the "historical" GEP formula] unless the owner or operator . . . demonstrates . . . that a greater height is necessary" to avoid excessive concentrations due to downwash. *Id.* (emphasis added). Third, Congress ordered that "[i]n no event may the Administrator prohibit any increase in any stack height or restrict in any manner the stack height of any source." *Id.*

II. THE EPA RULEMAKING

After enactment of the 1977 Amendments, EPA announced in November 1977 that the traditional "good engineering practice" standard of 2.5 times source height would be applied to new and existing sources pending the development of regulations under § 123 of the Act.¹⁷ The rulemaking to implement § 123 was initiated in January 1979. At that time, EPA proposed a radical change in the definition of "good engineering practice."

A. The 1979 Proposals and the Subsequent Reevaluation

EPA's January 1979 proposals would have required many sources that had made commitments based upon the traditional 2.5 rule to recalculate stack height credit based upon costly case-specific demonstrations.¹⁸ The proposals would also have severely restricted the instances in which sources in mountainous terrain could demonstrate that terrain obstacles caused unacceptable downwash.¹⁹ These and other aspects of the proposals would have vastly increased the number of instances in which false stack height assumptions would have had to

¹⁷ 42 Fed. Reg. 57459, 57460 (1977); see 40 C.F.R. § 51.24(h) (1983).

¹⁸ See 44 Fed. Reg. 2608, 2610-11 (1979); see Comments of the Utility Air Regulatory Group (April 3, 1979) at 15-22.

¹⁹ 44 Fed. Reg. at 2611, 2614.

be used in setting emission limitations under state implementation plans.²⁰

Industry and states strongly criticized these initial proposals. Their rulemaking comments showed that EPA's departure from established engineering principles would cost industry and consumers billions of dollars to meet new emission limitations based upon false stack height assumptions.²¹ Furthermore, these comments showed that the proposals would economically discriminate against sources in mountainous and hilly terrain by requiring them to meet emission limitations ten times more stringent than emission limitations for identical sources in flat terrain.²² Finally, these comments showed that these rules would have imposed substantial administrative burdens on the states. *See infra* pp. 27-29.

Based upon these comments, the schedule for promulgation of final rules was suspended while EPA conducted additional analyses of the impacts of its § 123 proposal. EPA's consultant issued a report in August 1980 that found that the 1979 proposals would have resulted in increased capital costs of up to \$2.8 billion and

²⁰ *See* ICF, Inc., Economic Impact of Tall Stack Regulations (June 1981) (appended to Comments of the Utility Air Regulatory Group (June 16, 1981)); EEA, Inc., Cost and Economic Impact Analysis of the Proposed Stack Heights Regulation (August 15, 1980) at 10-17, App. 132a-129a (hereinafter referred to as "1980 Impact Assessment"); Comments of the Utility Air Regulatory Group (April 3, 1979) at 6-29.

²¹ *See, e.g.*, Comments of Monsanto Co. (March 9, 1979) at 2; Comments of Gulf States Utilities Co. (March 8, 1979) at 1-2; Comments of the State of New Jersey Department of Environmental Protection (March 12, 1979) at 1-2; Comments of the State of Maryland Department of Environmental Health Administration (February 28, 1979) at 1.

²² *See, e.g.*, Environmental Research and Technology, Analysis of EPA Proposed Regulations on Stack Height Limitation (March 1979) (submitted as Appendix C to Comments of the Utility Air Regulatory Group (March 1979)) at 14-20, App. 116a-122a; *see infra* notes 52 & 53.

increased annual costs of up to \$794 million for utilities alone, and in rate increases of up to 26% for individual utilities.²³ Additional costs would have been imposed on utilities in mountainous terrain. See *infra* note 52.

In light of the rulemaking comments and its own additional analyses, EPA repropoed new rules in October 1981,²⁴ pursuant to a court order that required promulgation of final rules by January 1982.²⁵ The repropoed rules more closely paralleled the traditional engineering and regulatory concept of "GEP" stack height.

B. The Final Rules

In February 1982, EPA promulgated final rules that, like the repropoed rules, are consistent with traditional engineering and regulatory practice.

1. *The "GEP Formula"*—EPA's final rules adopt the traditional GEP formula to govern dispersion credits for stacks in existence before January 12, 1979 (the date of the initial EPA proposals), and adopt a refinement of the traditional 2.5 times source height rule (called the "1+1.5" rule) for stacks that are built after this date. EPA concluded, based upon the extensive record it had compiled,²⁶ that these formulas would yield a stack of sufficient height "to insure" that excessive concentrations due to downwash would be avoided.²⁷

²³ 1980 Impact Assessment at 10-18, App. 123a-129a.

²⁴ 46 Fed. Reg. 49814, *et seq.* (1981).

²⁵ *Sierra Club v. Gorsuch*, C.A. No. 81-0094 (D.D.C. Aug. 20, 1981).

²⁶ During § 123 rulemaking, EPA developed thousands of pages of documents in analyzing various aspects of the proposed and final rules. Over 100 commentators filed comments discussing various portions of the proposed rules. Public hearings were held that produced hundreds of additional pages of transcript and testimony.

²⁷ GEP Guidelines at 2, Appendix A; 47 Fed. Reg. 5864, 5865 (1982), App. 84a.

2. *"Excessive Concentrations"*—The final rules provide that credit above GEP formula height may be obtained only if the affected source makes a specific showing that the formulas fail to allow enough stack height credit "to insure" against "excessive concentrations" due to downwash.²⁸ "Excessive concentrations," a statutory term, is defined as a substantial "percentage increase" (i.e., 40 percent) in ambient concentrations caused by downwash. This definition reflects the historical engineering and regulatory notion of a maximum acceptable downwash condition.²⁹

3. *"Nearby"*—The statute provides that "excessive concentrations" must result from downwash caused by "nearby structures" or "nearby terrain obstacles." In accordance with the common understanding of the term, EPA defined "nearby" as a relative concept that is dependent upon the size of the object. Since larger objects will cause severe downwash at greater distances, EPA compiled an extensive record on the relationship between downwash and the obstacles that might produce it.³⁰ In the case of buildings and other manmade structures which are characterized by regular shapes and sizes, EPA was able to define "nearby structures" by a formula: "5 times" the height or width of the structure, up to 1/2 mile.³¹ Since terrain obstacles are much larger than buildings and have irregular shapes, EPA found that unacceptable downwash could extend for much greater distances. EPA could not determine a precise formula, however, and therefore de-

²⁸ See GEP Guidelines at 20-23; 47 Fed. Reg. at 5865, App. 84a-87a (1982).

²⁹ See GEP Guidelines at 20-23; J.E. Cermak and R.L. Petersen, Comments on the Proposed Regulations of 7 October 1981 to Implement Section 123 of the Clean Air Act (November 1981) at 1-8 (Appended to Comments of the Utility Air Regulatory Group (November 18, 1981)).

³⁰ See GEP Guidelines at 5-15, 24-26.

³¹ 47 Fed. Reg. at 5869, App. 100a.

finer a "nearby terrain obstacle" as one that is demonstrated through a fluid modeling study to be close enough to the source to cause at least a 40 percent increase in local ambient concentrations due to downwash.³²

4. "*Plume Impaction*"—EPA included in these rules a provision that governs development of GEP emission limitations in mountainous or hilly terrain. This provision—called the "plume impaction" rule—requires emission limitations for rugged terrain sources to be set using GEP stack height assumptions. It permits such sources, however, to adjust the terrain height assumption in the atmospheric dispersion model that must be used to establish a GEP emission limitation. *See infra* note 60. This adjustment is necessary to avoid predictions showing plume impaction (i.e., a concentrated plume drifting into elevated terrain rather than reaching ground level after dispersion) that could never occur in reality.³³ Under this rule, the GEP-based emission limitation governs unless the use of actual terrain height and actual stack height would require a more restrictive emission limitation. *See infra* pp. 22-23.

III. THE D.C. CIRCUIT'S DECISION

On October 11, 1983, the D.C. Circuit set aside virtually every significant portion of EPA's § 123 regulatory program. The court found that since "Congress appears to have taken the main elements of [the 1973 EPA guidance] statement in its definition of good engineering practice height," App. 9a, 10a, EPA's construction of § 123 seemed to reflect what Congress "probably had in mind." App. 42a-43a. Nonetheless, the court rejected EPA's reliance upon historical practice because such reliance would not carry out what the court asserted was the "pre-

³² *Id.* at 5865, 5868-69, App. 86a, 100a; GEP Guidelines at 47-48.

³³ *See* GEP Guidelines at 4, 50-51, addendum of December 15, 1981; 47 Fed. Reg. at 5866-67, App. 90a-94a.

dominant purpose" of § 123—to force emission reductions through the use of false stack height assumptions.²⁴

As enunciated by the court, "two precepts are the heart of [its] holding" on GEP stack height. App. 28a. First, in defining GEP, the court held that EPA was wrong in adopting "a conservative [GEP] rule that was absolutely sure to eliminate health hazards." Instead, the court held that EPA must justify its GEP rules "independent of" historical engineering practice. *Id.* Second, where there is a choice between definitions of a term, the court directed EPA always to "err on the side of reducing stack height." *Id.*

1. *The "GEP" Formula*—Based upon its independent reading of § 123, the court set aside EPA's rule establishing a "GEP formula" on which sources could rely in building stacks and the states could rely in setting emission limitations. It held that since EPA's regulation defining a GEP formula might, in some cases, provide more protection against downwash than is needed, "[r]ationality demands" that EPA require case-specific showings that its rule does not provide too much protection against unacceptable downwash. Alternatively, EPA must establish a GEP formula that never provides for too much protection. App. 46a-47a.

2. *"Excessive Concentrations"*—The court set aside EPA's definition of "excessive concentrations," finding that although it was "likely . . . that Congress thought

²⁴ App. 18a. The court also characterized § 123 generally "as something of a concession from the strict command that dispersion not be used to meet air quality standards." *Id.* (emphasis added). No support is cited in the statute or the legislative history for either this characterization or the court's conclusion regarding § 123's "predominant purpose." Indeed, the "strict command" against dispersion discovered by the court reflects a fundamental misunderstanding of the principles underlying good air quality management since without dispersion there could be no industrial activity. See *supra* note 6 and accompanying text.

traditional engineering practice" would be followed, EPA's definition had not been justified "independent of" historical notions of adverse downwash conditions. App. 18a-28a.

3. "*Nearby*"—The court affirmed EPA's definition of "nearby structures" but set aside EPA's definition of "nearby terrain obstacles," holding that regardless of the factual record on the downwash effects of very large terrain obstacles, a rigid distance definition (e.g., "½ mile") was both in keeping with the "strict command [of § 123] that dispersion not be used to meet air quality standards," and would further the court's assumed § 123 objective of "reducing emissions." App. 13a-18a. Although the lower court noted that this interpretation reflected "an element of arbitrariness," App. 18a, it justified its reading of the statute as not "utterly nonsensical." App. 16a.

4. "*Plume Impaction*"—The lower court set aside EPA's plume impaction rule. While the court admitted that its holding would "discriminate[] harshly against utilities located in mountainous terrain" and that Congress did not "focus on, and resolve" the problem redressed by EPA in the rule, App. 37a, 38a, the court concluded that its holding was "not utterly irrational" because elimination of the plume impaction rule would once again reduce dispersion credit. App. 39a; *infra* pp. 24-25.

5. *Requirements on Remand*—Having dismantled EPA's § 123 regulatory program, the D.C. Circuit imposed upon EPA, without briefing and argument, a six month deadline²³ to promulgate a new § 123 program, and imposed upon the states a nine month deadline to implement fully EPA's revised program. In imposing the six month deadline upon EPA, the court suggested that the rulemak-

²³ This schedule begins upon issuance of the mandate (App. 68a), which has been stayed by the court pending the filing of this Petition.

ing could be completed within this time by reverting to the 1979 proposals, since "the flaws we have found in EPA's regulations were reversals of positions taken in the 1979 proposed regulations." App. 68a-69a.

On November 25, 1983, Petitioners filed a timely Petition for Rehearing and Suggestion for Rehearing *En Banc*. These were both denied on December 13, 1983. App. 70a-73a.

REASONS FOR GRANTING THE WRIT

Section 123 of the Clean Air Act calls upon the states to use "good engineering practice stack height" assumptions when establishing emission limitations under § 110 of the Act, and expressly delegates to EPA the authority to adopt rules that define GEP for the states. After lengthy rulemaking, EPA adopted GEP rules which define technical statutory terms in light of historical engineering and regulatory practice. The court below rejected EPA's rules without giving any deference whatsoever to the Agency's construction of the statute, and ordered EPA to require the states to adopt costly implementation plan revisions that will substantially complicate the administration of the § 110 federal-state clean air programs. In the process, the court transformed a minor statutory provision designed to codify past engineering practice into a comprehensive mandate for "reducing emissions" based upon false air quality predictions.

This case, like other recent decisions of the court below, exhibits the D.C. Circuit's view that it is free to decide whether or not any deference should be given to an agency's interpretations of its enabling legislation. As Judge Mikva asserted in a recent opinion, "the case law . . . has not crystalized around a single doctrinal formulation which captures the extent to which courts should defer to agency interpretations of law."²² Judge Wright attrib-

²² NRDC v. EPA, No. 81-2001, slip op. at 13 (D.C. Cir. January 17, 1984).

utes this perceived lack of clarity to what he terms the countervailing "gravitational pulls of two opposing platitudes," one counseling deference to reasonable agency interpretations and the other stating that the courts are the final authorities on matters of statutory construction.³⁷

Where technical terms are involved and the agency is directed to define them through rulemaking, as is the case here, decisions of this Court require that the agency's interpretations be given "legislative effect."³⁸ If these interpretations are not given legislative effect, they must at least be deferred to if they are within the spectrum of "reasonable" interpretations of the act.³⁹ In this case, rather than giving "legislative effect," or even "deference," to EPA's reasonable definitions of technical terms used in § 123 of the Clean Air Act, the D.C. Circuit chose a third standard of review and appointed itself the "final authority" on the meaning and application of technical statutory terms such as "GEP," "excessive concentrations," and "nearby terrain obstacles."

In sum, the D.C. Circuit, a court which is vested with exclusive or concurrent jurisdiction to review the actions of virtually every federal agency,⁴⁰ does not view itself as being bound in any given case to apply the "deference" standard of review; rather, the choice of "opposing platitudes" is entirely for the court.⁴¹

³⁷ *Black Citizens for a Fair Media v. FCC*, 719 F.2d 407, 423 (D.C. Cir. 1983) (Wright, J., dissenting).

³⁸ *Herweg v. Ray*, 455 U.S. 265, 274-75 (1982); *infra* note 43 and accompanying text.

³⁹ *Train v. NRDC*, 421 U.S. 60, 75 (1975); *infra* note 49 and accompanying text.

⁴⁰ See, e.g., CAA § 307(b); 28 U.S.C. § 2343 (1976) (Hobbs Act); 47 U.S.C. § 402(b) (1976) (Federal Communications Commission); 26 U.S.C. § 9011(a) (1976) (Federal Election Commission).

⁴¹ See also *Democratic Senatorial Campaign Comm. v. FEC*, 660 F.2d 773, 776-77 (D.C. Cir. 1980) ("special deference to an agency's

Certiorari should be granted in this case in order to avoid substantial and unwarranted changes in the air quality programs administered by the states under § 110 of the Clean Air Act, and to bring to a halt the uncertainty created by the D.C. Circuit's case-by-case approach to determining the standard it will apply when reviewing agency interpretations of enabling legislation.

I. THE D.C. CIRCUIT'S REJECTION OF EPA'S RULE-MAKING IMPLEMENTATION OF "GOOD ENGINEERING PRACTICE" VIOLATES THE DECISION OF THIS COURT IN *HERWEG v. RAY* THAT AN AGENCY'S DEFINITION OF TECHNICAL TERMS IN ITS ENABLING LEGISLATION MUST BE GIVEN "LEGISLATIVE EFFECT"

Congress directed EPA in § 123 to "determine under regulations promulgated by the Administrator" the meaning of "GEP" stack height. CAA § 123(a)(1), (c), App. 110a, 111a. Unlike other provisions of the Clean Air Act, Congress made no attempt in § 123 to define key technical terms such as "excessive concentrations" and "nearby terrain obstacles." Compare CAA § 169 (definitions of terms used in "PSD" provisions). Rather, it simply required that EPA apply a precautionary standard (i.e., "to insure" against unacceptable downwash) when implementing the term "GEP."

Pursuant to this specific delegation of authority to give content to technical terms in § 123, EPA defined "GEP,"

interpretation of its governing statute is often appropriate . . . [this agency interpretation] fails to merit the court's substantial deference"), *rev'd*, 454 U.S. 27, 31-32 (1981) (D.C. Circuit improperly addressed "deference" issue); *National Wildlife Federation v. Gorsuch*, 693 F.2d 156, 166-70 (D.C. Cir. 1982) ("the standard for deference to an agency's interpretation of its governing statute 'defies generalized application'"). *Cf.* *Public Service Comm'n v. Mid-Louisiana Gas Co.*, 103 S.Ct. 3024, 3038 (1983) (White, Brennan, Marshall, and Blackmun, JJ., dissenting) (dispute as to deference standard).

"excessive concentrations," and "nearby terrain obstacles" in a manner that both fulfills the statutory command "to insure" against the occurrence of unacceptable downwash,⁴² and reconciles them with longstanding regulatory and engineering experience. *See supra* pp. 5-7. To assure that implementation of its definition of GEP would not produce mindless discrimination against mountainous or hilly terrain regions of the country, EPA adopted the "plume impaction" rule. *See infra* pp. 22-23.

In similar cases in which Congress has made an "explicit delegation of authority [to an administrative agency] to give substance to the meaning of" a statutory term, this Court has applied a standard of review entitling the agency's definition

"to more than mere deference or weight." [Citations omitted.] Because Congress has entrusted the primary responsibility of interpreting a statutory term to the [agency] rather than to the courts, [t]his definition is entitled to "legislative effect."⁴³

Instead of giving EPA's application of these technical terms "legislative effect," the D.C. Circuit, in each instance, rejected EPA's reasonable interpretation of the statute and substituted different interpretations based upon the court's independent evaluation of congressional intent. *See supra* pp. 14-15, *infra* p. 21. Certiorari is necessary to clarify for the D.C. Circuit that this Court's decision in *Herweg v. Ray*, 455 U.S. 265 (1982), provides the appropriate standard of review in this case, and to correct this intrusion by the court below into EPA's delegated powers.

⁴² *See* 47 Fed. Reg. at 5865, 5868-69, App. 84a, 99a-100a; GEP Guidelines at 1-4, 20-23, 47-48, Appendix A.

⁴³ *Herweg v. Ray*, 455 U.S. 265, 274-75 (1982) (emphasis added). *See also* *Schweiker v. Gray Panthers*, 453 U.S. 34, 43-46 (1981); *Batterton v. Francis*, 432 U.S. 416, 424-29 (1977); *FEC v. Democratic Senatorial Campaign Comm.*, 454 U.S. 27, 37-39 (1981).

II. EPA'S INTERPRETATION OF TECHNICAL STATUTORY TERMS WAS "SUFFICIENTLY REASONABLE" TO PRECLUDE THE D.C. CIRCUIT FROM SUBSTITUTING ITS JUDGMENT FOR THAT OF THE AGENCY

If for any reason this Court determines that the "legislative effect" standard of *Herweg v. Ray* is not the applicable standard of review in this case, it is nonetheless clear that under the decision of this Court in *Union Electric Co. v. EPA*, 427 U.S. 246, 256 (1976), the court below was required to "accord[] great deference to the Administrator's construction of the . . . [Clean Air] Act," and that under *Train v. NRDC*, 421 U.S. 60, 75 (1975), the court below should have accepted EPA constructions of the Clean Air Act that were "reasonable." For the reasons discussed below, EPA's rules were based on reasonable constructions of the Act which should have been given deference by the D.C. Circuit.

Section 123 gives EPA broad latitude to implement "GEP" rules so long as its rules "insure" that unacceptable downwash will be avoided. *See supra* pp. 8-9. The only other statutory constraint on the Agency's rulemaking authority to implement GEP is that credit for any stack height above 2.5 times source height must be established through case-by-case adjudication. CAA § 123(c), App. 111a. Thus, the "to insure" language of § 123 contemplates a conservative rule which errs on the side of sufficient credit but does not allow automatic credit greater than 2.5 times source height.

EPA's final rules were consistent with the commands of the statute. In promulgating its rules, EPA concluded, based upon statements in the legislative history, that Congress in § 123 was generally codifying previous judicial decisions and "affirming the 2½ times standard used by the Administrator."⁴⁴ Therefore, EPA deter-

⁴⁴ H.R. Rep. No. 95-294 at 93, 91-92, 1977 *Legis. Hist.* 2560, 2558-59.

mined that both "GEP stack height" and "excessive concentrations" should be defined in terms of the traditional 2.5 rule, which had been shown through actual practice to be a conservative measure of the minimum stack height needed to avoid serious downwash.⁴⁵

In holding that EPA is precluded from adopting a "conservative" GEP formula which provides absolute protection against unacceptable downwash, App. 28a, the court below failed to give any effect to the statutory command that GEP "insure" against unacceptable downwash. Instead of looking at the language of the statute, the court evaluated the acceptability of EPA's interpretation exclusively in reference to legislative history. While the court itself described the legislative history as sending out "sharply conflicting signals" regarding congressional intent, App. 20a-21a, the court rejected EPA's construction of the Act on the basis of a single, ambiguous passage in the Conference Report.⁴⁶

In requiring EPA to abandon traditional historical engineering practice and to adopt rules that "err on the

⁴⁵ GEP Guidelines at 7, Appendix A; *see* App. 8a-10a. *Cf.* *Corning Glass Works v. Brennan*, 417 U.S. 188, 201 (1974) ("where Congress has used technical words or terms of art, 'it [is] proper to explain them by reference to the art or science to which they [are] appropriate'").

⁴⁶ In analyzing the legislative history, the court conceded that there was evidence in the legislative history that Congress "probably intended" to legislate the conservative, preexisting engineering practice underlying terms such as "GEP" and "excessive concentrations." App. 8a-9a, 20a. However, the court gave controlling weight to a single passage in the legislative history which the court characterized as indicating "that the conference committee saw the possibility of a distinction between its definition of the amount of downwash to be avoided and what engineers had been doing." App. 23a (emphasis added). As a result of this "possibility," the lower court concluded that Congress did in fact intend that the broad language of § 123 would change radically the traditional GEP concept.

side of reducing stack height,"⁴⁷ the court below completely ignored the precautionary language of the statute ("to insure") and gave no weight whatsoever to EPA's reasoned but different view of the legislative history.⁴⁸ As the decisions of this Court make clear, a reviewing court is not free to overturn an agency's interpretation of technical statutory terms "simply because it may prefer another interpretation of the statute," or because "reasonable men could differ as to their construction."⁴⁹ Certiorari is necessary to correct the D.C. Circuit's confusion as to the appropriate standard of review, which has led it to rewrite a complex, technical statutory provision.

III. THE D.C. CIRCUIT EXCEEDED ITS AUTHORITY AS A REVIEWING COURT BY REQUIRING EPA TO APPLY ITS GEP RULES TO SOURCES IN RUGGED TERRAIN IN A MANNER NEVER CONSIDERED BY CONGRESS

During the rulemaking, EPA interpreted § 123 to allow the development of a rule which could be used by states with hilly or mountainous terrain to determine GEP emission limitations. This rule makes clear that such states are not required to revise their § 110 implementation plans based upon GEP modeling results showing "plume impaction" (a phenomenon that can only occur in rugged terrain areas) when such plume impaction cannot, and does not, occur in reality. Thus, while Congress in § 123 had called for states to base emission limitations upon false stack height assumptions, *see supra* p. 7, EPA concluded that Congress had not or-

⁴⁷ App. 28a.

⁴⁸ 47 Fed. Reg. at 5865, App. 84a-87a; GEP Guidelines at 1-4.

⁴⁹ *INS v. Wang*, 450 U.S. 139, 144 (1981). *See Beal v. Doe*, 432 U.S. 438, 447 (1977); *Investment Company Institute v. Camp*, 401 U.S. 617, 626-27 (1971).

dered the states to apply a second false assumption—i.e., assuming that stack height is lower than terrain height when this is not the true relationship. It is the use of this second false assumption which results in predictions of theoretical “plume impaction.”⁵⁰

If this second false assumption were used in atmospheric models developed for sources in rugged terrain, states would be required to set GEP emission limitations that would be more stringent by a factor of ten than the GEP limits imposed upon identical sources in flat terrain. *See supra* note 22 and accompanying text; App. 38a-39a. In order to bring GEP emission limits for rugged terrain sources more into line with those calculated in flat terrain, EPA developed a rule which, as the lower court correctly observed, would require sources in mountainous regions to meet GEP emission limitations *that are as restrictive or more restrictive than those calculated in flat terrain.*⁵¹ In construing the statute to eliminate irrational discrimination against rugged terrain areas while at the same time assuring enforcement of stringent GEP-based emission limits, EPA furthered the specific objectives of § 123 and the general objectives of the Act to protect the “public health and welfare” in a way that also promotes the “productive capacity” of the nation.⁵²

⁵⁰ See GEP Guidelines at 4; 47 Fed. Reg. at 5866-67, App. 91a-92a.

⁵¹ App. 32a n.4. Under the “plume impaction” rule adopted by EPA to avoid the use of this second false assumption, sources in mountainous terrain would be allowed to assume that terrain height was equal to GEP stack height. In atmospheric modeling, this terrain height adjustment would be the *only* adjustment made for such sources. Emission limitations would then be calculated using GEP formula stack height, and these GEP emission limitations would govern *unless* the use of actual stack height above GEP height would result in a more stringent emission limitation due to actual plume impaction. GEP Guidelines at 4.

⁵² CAA § 101(b)(1), App. 106a. Requiring states to impose emission limitations based upon false plume impaction would require

In reviewing the "plume impaction" rule, the court below conceded that Congress, in enacting § 123, did not "focus on, and resolve" the question of whether GEP emission limitations should be based upon false plume impaction. App. 37a. Notwithstanding this congressional silence and notwithstanding the fact that EPA's plume impaction rule would require equal or more stringent GEP emission limitations for rugged terrain sources, the court below reversed the rule. The court's holding is predicated on the assumption that emissions from sources in mountainous regions would somehow be dispersed over a wider territory, and that such "wider dispersion" would violate congressional intent. App. 39a. These assumptions are wrong.

Since both § 123 and the plume impaction rule affect only assumed and not actual stack height, the plume impaction rule will have no effect whatsoever on the geographical extent of dispersion from existing stacks in rugged terrain. See CAA § 123(c), App. 111a. With respect to new stacks, the plume impaction rule ensures that stacks in rugged terrain will always be assumed to disperse pollution less widely than similar stacks in flat terrain.⁵³ As to congressional intent, the rule assures that sources in rugged terrain will meet stringent GEP

sources located in rugged terrain to expend billions of dollars more on controls than their flat terrain counterparts, even though these sources emit at much lower levels than sources in flat terrain. Comments of the Utility Air Regulatory Group (June 16, 1981) at 37-38; Comments of the Southern Company (May 29, 1981) at 1-2. These large costs would redirect further industrial growth towards flat terrain areas, where population centers are typically located, and where sources are able to emit at higher levels and obtain more dispersion than if they were to locate in rugged terrain. See Comments of the Utility Air Regulatory Group (June 16, 1981) at 46-47; Comments of Sun Company (Nov. 2, 1981) at 1-2; Comments of Gulf States Utilities (March 8, 1979) at 1-2.

⁵³ Since emissions at terrain height (the atmospheric modeling adjustment required by the plume impaction rule) reach the ground more rapidly than emissions released above terrain (the assump-

limi , thus fulfilling the congressional objective that sources with taller-than-GEP stacks gain no emissions control advantage due to increased dispersion. *See supra* pp. 7-8.

To justify its holding that EPA must apply § 123 in a way which "discriminates harshly" against states with mountains and hills, App. 38a, the court once again resorted to the legislative history of the Act. This time it focused on congressional testimony relating to the PSD provisions of the Act which the court believed disclosed an "indifference" by Congress to such discrimination.⁵⁴ As *the court itself concedes*, however, none of this legislative history supports the conclusion that Congress actually "focuse[d] on" or "resolve[d]" the question whether the states must base § 123 emissions limitations on false predictions of plume impaction. App. 37a.

In view of Congress' silence, it was incumbent upon EPA in exercising its § 123 rulemaking authority to resolve the regional discrimination problem posed by false plume impaction predictions in a manner consistent with the general and specific purposes of the Act.⁵⁵ EPA

tion used for flat terrain sources), emissions of sources in rugged terrain will always be assumed to be dispersed *less* widely than comparable emissions from sources in flat terrain. When actual stack height assumptions govern under the plume impaction rule, the geographical extent of the dispersion will be even less, since emission limitations will be based upon a concentrated plume interacting with nearby terrain. *See* GEP Guidelines at 4, 51.

⁵⁴ The court cited legislative history counseling "more careful siting" of new industrial facilities in rugged terrain as reflecting this curious congressional bias against hills and mountains. App. 35a-36a, 38a. All of this legislative history, however, is irrelevant to § 123 since it concerns the siting of *new* sources which have flexibility to choose whether or not to locate in rugged terrain. Section 123, by contrast, will immediately affect many existing sources already located in rugged terrain.

⁵⁵ *See* *Rose v. Lundy*, 455 U.S. 509, 517 (1982) (where it appears that "Congress never thought of the problem . . . the policies underlying the statutory provision [must be analyzed] to determine its proper scope"); *Sea-Land Service, Inc. v. Kreps*, 566 F.2d 763, 773 (D.C. Cir. 1977) (where there is "no direct statutory mandate, the

did this. *See supra* p. 23. Its decision was reasonable, particularly in light of the very legislative history relied upon by the court. That legislative history showed that when regional discrimination was brought to Congress' attention in the context of problems created by the PSD provisions of the Act, Congress responded, as EPA did here, by fashioning a provision ameliorating the discrimination.⁵⁶

Certiorari is required in this case to confirm that, in the face of Congressional silence, EPA had authority to construe the Clean Air Act in a manner which avoids absurd and irrational results,⁵⁷ while assuring that the statutory objectives are attained. EPA's plume impaction rule was within EPA's discretion under the statute and the court below exceeded its authority in rejecting that rule.⁵⁸

agency charged with administering the statute must . . . look to the purposes underlying the particular provision and the Act in general").

⁵⁶ The court below incorrectly concluded that "[no] relief for mountainous areas was enacted in response" to the statements it cites. App. 36a. The PSD provisions, as enacted, include a variance provision providing for *more lenient* PSD treatment of sources in rugged terrain. *See* CAA § 165(d)(2)(D)(iii)-(iv); 1977 *Legis. Hist.* 318, 351, 438, 533.

⁵⁷ *American Tobacco Co. v. Patterson*, 456 U.S. 63, 71 (1982). *See also* *Citizens to Save Spencer County v. EPA*, 600 F.2d 844, 891 (D.C. Cir. 1979) (Leventhal, J., concurring): "When an agency shows good sense, '[c]ourts are loathe to say that good sense is not good law.'"

⁵⁸ Even if the D.C. Circuit did not agree with the Agency's rationale for the plume impaction rule, it should have simply remanded the rule to the Agency for reconsideration rather than reversing it based upon the court's independent factual assumptions. *See Public Service Comm'n v. Mid-Louisiana Gas Co.*, 103 S.Ct. 3024, 3038 (1983); *South Prairie Construction Co. v. Operating Engineers*, 425 U.S. 800, 805-06 (1976); *FCC v. Pottsville Broadcasting Co.*, 309 U.S. 134, 145 (1940).

IV. THE D.C. CIRCUIT'S DECISION WILL SERIOUSLY RESTRICT ECONOMIC GROWTH IN MANY AREAS OF THE COUNTRY AND WILL GREATLY COMPLICATE ADMINISTRATION OF THIS NATION'S SYSTEM OF AIR QUALITY REGULATION

In this case, the D.C. Circuit has overturned EPA's implementation of § 123 in favor of a different approach advocated by environmental groups. The court's decision rejects the ground rules which, since 1973, have guided the states in developing emission limitations under § 110 of the Act.

The new ground rules called for by the D.C. Circuit will require all fifty states to adopt comprehensive revisions to their state implementation plans. Emissions reductions brought about by these revisions will not be based upon real threats to the public health and welfare, but rather upon theoretical local violations of ambient requirements that are predicted to occur when false stack height assumptions are used.

Under the required state implementation plan revisions, existing industrial facilities face the prospect of billions of dollars in additional costs. *See supra* pp. 10-11, 23 n.52. As to new source construction, the decision could require the states to develop costly emission offset programs designed to avoid theoretical, not actual, violations of ambient standards.⁶⁰ If offsets could not be obtained, no growth could take place.

⁶⁰ Under CAA §§ 110 and 163, industrial growth can take place only if it is demonstrated that no violations of ambient standards and PSD increments will occur. Under the ambient standard definition of "excessive concentrations" suggested by the D.C. Circuit, *see App. 19a-20a, 24a, 27a*, a source's stack height credit would be set to predict ambient concentrations just below the ambient standards. This definition of "excessive concentrations" would thus require emissions offsets before any further construction could take place, in order to avoid theoretically predicting violations of ambient standards or PSD increments.

Regarding the administration of § 110 by the states, the court's decision will further complicate already overly complex state regulatory programs. By expanding the use of false stack height assumptions, the states would be forced to refocus their air pollution control on non-existent pollution concentrations predicted using mathematical models. Whenever mathematical models are changed, new emission limitations would have to be established.⁶⁰ Real air quality—i.e., the air that people actually breathe—would cease to govern, or even affect, the stringency of emission limitations and would be largely irrelevant to administration of the Act.⁶¹

In sum, the D.C. Circuit in this case mandates EPA regulatory changes that would transform the § 110 regulatory program from one that is largely directed at actual pollution concentrations to one directed at abating wholly theoretical violations of public health and welfare standards. The D.C. Circuit has thus set in motion a

⁶⁰ Since § 123 focuses on theoretical rather than actual ambient concentrations, it can be implemented only through mathematical dispersion models. Under § 320(a) of the Act, EPA is required to conduct a proceeding at least every three years to revise air quality models in light of the most recent scientific information. Every time these models are revised they will predict different ambient concentrations. As a result, by making false stack height assumptions the centerpiece of clean air regulation, the D.C. Circuit will require the states to engage in a never-ending process of implementation plan revisions.

⁶¹ The New York Department of Environmental Conservation recently requested EPA to seek further review of the "excessive concentrations" portion of the D.C. Circuit's decision since it will open a "Pandora's box" of false regulatory assumptions, imposing requirements which "most states do not have the expertise or the resources to apply." Letter from New York Department of Environmental Conservation to EPA at 2 (December 27, 1983). The current rulemaking record shows that states would have had difficulty coping with the reviews required under the 1979 proposal. *See, e.g.*, 46 Fed. Reg. 49821 (1981); Comments of New York Dep't of Environmental Conservation (March 6, 1979) at 2; Comments of Texas Air Control Board (March 18, 1979) at 2-3.

process that will lead EPA to require the states to impose many emission limitations that are more stringent than necessary to attain ambient standards, a result rejected in *Train v. NRDC*, 421 U.S. 60 (1975). Equally important, the court below has required enormously costly compliance measures even though the public health is not in fact threatened, a result which, if allowed to stand, should lead this Court to reconsider its decision in *Union Electric*, 427 U.S. 246, 258-59 (1976). Certiorari is necessary in this case to review this D.C. Circuit decision which threatens to restructure in a fundamental way this nation's system of air quality regulation.

CONCLUSION

For the reasons stated, this petition for certiorari should be granted.

Respectfully submitted,

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Counsel for Petitioners

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February 28, 1984

SUPPLEMENTAL APPENDIX

**PARENT COMPANIES, SUBSIDIARIES AND
AFFILIATES OF INDIVIDUAL ELECTRIC UTILITIES**

Alabama Power Company
(subsidiary of The Southern Company)

subsidiary:

Alabama Property Company

affiliate:

Southern Electric Generating Company

Appalachian Power Company
(subsidiary of American Electric Power Company,
Inc.)

subsidiaries:

Central Appalachian Coal Company
Central Coal Company
Central Operating Company
Kanawha Valley Power Company
Southern Appalachian Coal Company
West Virginia Power Company
Cedar Coal Company

Baltimore Gas and Electric Company

subsidiaries:

Resource and Property Management, Inc.
Safe Harbor Water Power Corp.

Boston Edison Company

Carolina Power & Light Company

subsidiaries:

Capitan Corporation
Leslie Coal Mining Company
McInnes Coal Mining Company
Carolina Power & Light Finance N.V.

affiliate:

Carolinas-Virginia Nuclear Power Associates,
Inc.

Central and South West Corporation

subsidiaries:

Central Power and Light Company
Public Service Company of Oklahoma

subsidiary:

Ash Creek Mining Co.
Transok Pipe Line Co.
Southwestern Electric Power Company

subsidiary:

Southwest Arkansas Utilities Corp.

affiliate:

Arklahoma Corp.
West Texas Utilities Company
Central and South West Services, Inc.
Central and South West Fuels, Inc.
GSW Financial Inc.

Central Hudson Gas and Electric Corporation

subsidiaries:

Phoenix Development Company, Inc.
Greene Point Development Corporation
Central Hudson Enterprises Corp.
CH Resources, Inc.

Central Illinois Light Company

subsidiaries:

CILCO Exploration and Dev. Co.
CILCO Energy Corporation

Central Illinois Public Service Co.

subsidiary:

Electric Energy, Inc.

A-3

The Cincinnati Gas and Electric Company

subsidiaries:

Union Light, Heat and Power Co.
West Harrison Gas & Electric Co.
Miami Power Corp.
Lawrenceburg Gas Co.
Lawrenceburg Gas Transmission Corp.
Tri-State Improvement Co.
YGK Inc.

The Cleveland Electric Illuminating Co.

subsidiaries:

The Ceico Co.
CCO Co.

Columbus and Southern Ohio Electric Company
(subsidiary of American Electric Power Company,
Inc.)

subsidiaries:

Colomet, Inc.
Simco, Inc.

Commonwealth Edison Company

subsidiaries:

Commonwealth Edison Co. of Indiana, Inc.
Chicago & Illinois Midland Railway Co.
Cotter Corp.
Commonwealth Research Corp.
Edison Development Canada Inc.
Edison Development Co.
Concomber, Ltd.

Consolidated Edison Company of New York, Inc.

Consumers Power Company

subsidiaries:

Michigan Gas Storage Company
Northern Michigan Exploration Company

A-4

Michigan Utility Collection Service Co., Inc.
Plateau Resources Limited
Utility Systems, Inc.
Consumers Power Finance N.V.

The Dayton Power and Light Company

subsidiaries:

DP&L Community Urban Redevelopment Corp.
Miami Valley Development Company
ZMS Inc.

Delmarva Power & Light Company

subsidiaries:

Delmarva Energy Co.
Delmarva Industries, Inc.

The Detroit Edison Company

subsidiaries:

Edison Illuminating Company
Midwest Energy Resources Company
St. Clair Energy Corp.
Washtenaw Energy Corp.
Utility Technical Services, Inc.

Duke Power Company

subsidiaries:

Mill-Power Supply Co.
Crescent Land & Timber Corp.

subsidiaries:

Millwood Co.
Wateree Power Co.
Eastover Land Co.
Eastover Mining Co.
Western Fuel, Inc.
Wateree Power Co.
Catawba Manufacturing and Electric Power Co.

A-5

Western Carolina Power Co.
Caldwell Power Co.
Southern Power Co.
Greenville Gas and Electric Light and Power
Co.
Duke Power Overseas Finance N.V.

Florida Power Corporation
(subsidiary of Florida Progress Corporation)

Florida Power & Light Company

subsidiaries:

Fuel Supply Service, Inc.
Land Resources Investment Company
W. Flagler Investment Corp.

Georgia Power Company
(subsidiary of The Southern Company)

subsidiary:

Piedmont Forrest Co.

affiliate:

Southern Electric Generating Company

Gulf Power Company
(subsidiary of The Southern Company)

Gulf States Utilities Company

subsidiary:

Varibus Corporation

Houston Lighting & Power Company
(controlled by Houston Industries, Inc.)

Illinois Power Company

subsidiaries:

IP Inc.
IPF Co. N.V.
Illinois Power Fuel Company

affiliate:

Electric Energy, Inc.

Indiana & Michigan Electric Company
(subsidiary of American Electric Power Company,
Inc.)

subsidiaries:

Price River Coal Company
Blackhawk Coal Company

Indianapolis Power & Light Company
Iowa-Illinois Gas and Electric Company

subsidiary:

Iowa-Illinois Energy Co.

Iowa Public Service Company

subsidiaries:

Cimmred, Inc.
Energy Development Company
Energy Reserves, Inc.
Centennial Coal, Inc.
Midwest Energy Co.
Midwest Energy Services Co.

Kansas City Power and Light Company

Kentucky Power Company
(subsidiary of American Electric Power Company,
Inc.)

Kentucky Utilities Company

subsidiary:

Old Dominion Power Company

Long Island Lighting Company

subsidiary:

LILCO Energy Systems, Inc.

A-7

Madison Gas and Electric Company

subsidiaries:

MG&E NUCLEAR FUEL INC.

MAGAEL INC.

MAGAEL Material Resources, Inc.

Arkansas Power & Light Company

(subsidiary of Middle South Utilities, Inc.)

subsidiary:

Associated Natural Gas Co.

affiliates:

System Fuels, Inc.

The Arkklahoma Corp.

Louisiana Power & Light Company

(subsidiary of Middle South Utilities, Inc.)

Mississippi Power & Light Company

(subsidiary of Middle South Utilities, Inc.)

subsidiaries:

The Light, Heat & Water Company of Jackson*

Jackson Gas Light Company*

Jackson Light & Traction Company*

affiliate:

Systems Fuels, Inc.

New Orleans Public Service, Inc.

(subsidiary of Middle South Utilities, Inc.)

subsidiary:

Systems Fuels, Inc.

Mississippi Power Company

(subsidiary of The Southern Company)

* Inactive

A-8

Monongahela Power Company
(subsidiary of Allegheny Power System, Inc.)

subsidiaries:

Allegheny Generating Co.
Allegheny Pittsburgh Coal Company*

New England Power Company
(subsidiary of New England Electric System)

New York State Electric & Gas Corporation

Northeast Utilities

subsidiaries:

Connecticut Light and Power Company

subsidiaries:

Shelton Canal Co.
Research Park, Inc.
Connecticut Gas Co.
Electric Power, Inc.*
Connecticut Transmission Corp.*
City & Suburban Electric Gas Co.
The Nutmeg Power Company
The Mohawk Gas Co.*
The Connecticut Steam Co.*

Northeast Nuclear Energy Company
Quinnehtuk Company
Rocky River Realty Company
Western Massachusetts Electric Co.
Northeast Utilities Service Co.

Northern Indiana Public Service Company

subsidiaries:

Shore Line Shops, Incorporated
NIPSCO Exploration Co.
NIPSCO Fuel Co., Inc.
Northern Indiana Public Service Finance N.V.

* Inactive

Ohio Edison Company

subsidiaries:

Pennsylvania Power Company
Ohio Edison Finance N.A.

Ohio Power Company

(subsidiary of American Electric Power Company, Inc.)

subsidiaries:

Central Coal Company
Central Ohio Coal Company
Central Operating Company
Southern Ohio Coal Company
Windsor Power House Coal Company
Beech Bottom Power Co., Inc.
Cardinal Operating Co.

Ohio Valley Electric Corporation

subsidiary:

Indiana-Kentucky Electric Corp.

Oklahoma Gas and Electric Company

subsidiary:

Arklahoma Corporation

Pennsylvania Power and Light Co.

subsidiaries:

Pennsylvania Mines Corp.

subsidiaries:

Tunnelton Mining Co.
Greene Manor Coal Co.
Rushton Mining Co.
Greene Hill Coal Co.

Service Development Company
Safe Harbor Water Power Corp.
Realty Company of Pennsylvania

subsidiaries:

BDW Corp.
LCA Leasing Corp.
Lady Jane Collieries, Inc.

Interstate Energy Co.
The Arcadia Company, Inc.

The Potomac Edison Company
(subsidiary of Allegheny Power System, Inc.)

subsidiaries:

Allegheny Generating Company
Allegheny Pittsburgh Coal Company *

Potomac Electric Power Company

Subsidiary:

Potomac Electric Finance N.V.

Public Service Company of Indiana, Inc.

Public Service Electric and Gas Company

subsidiaries:

Energy Development Corp.

subsidiary:

Gasdel Pipeline System, Inc.

PSE&G Research Corp.
Energy Terminal Services Corp.
Energy Pipeline Corp.
PSE&G Overseas Finance N.V.

Rochester Gas & Electric Corporation

Salt River Project

Southern California Edison Company

subsidiaries:

Associated Southern Investment Co. (ASIC)
Electric Systems Company

* Inactive

A-11

Energy Services Inc.
Calabasas Park Company (CPC)
Calabasas Communications Company
Southern Surplus Realty Company
Mono Power Company
Bear Creek Uranium Company
Mono Green Mountain Company
Southern California Edison Finance Co. N.V.
Palo Verde Uranium Venture

Tampa Electric Company
(controlled by TECO Energy, Inc.)

Texas Utilities Generating Company
(subsidiary of Texas Utilities Company)

Toledo Edison Company

Tucson Electric Power Company

subsidiary:

Alamito Coal Co.
Escavada Leasing Co.
Valencia Energy Co.

Union Electric Company

subsidiaries:

Union Colliery Company
Missouri Power & Light Company
Missouri Edison Company
Missouri Utilities Company

affiliate:

Electric Energy, Inc.

Virginia Electric and Power Company
(controlled by Dominion Resources, Inc.)

subsidiaries:

Laurel Run Mining Company
Virginia Nuclear, Inc.

West Penn Power Company
(subsidiary of Allegheny Power System, Inc.)

subsidiaries:

Allegheny Generating Company
Allegheny Pittsburgh Coal Company*
Beech Bottom Power Company, Inc.
West Virginia Power & Transmission Co.

subsidiary:

West Penn West Virginia Water
Power Company

Wisconsin Electric Power Company

subsidiaries:

Wisconsin Natural Gas Company
Badger Service Company

Wisconsin Power and Light Company

subsidiaries:

South Beloit Water, Gas and Electric Co.
Wisconsin Power and Light Nuclear Fuel, Inc.
NUFUS Resources, Inc.
Windworks, Inc.

affiliate:

Wisconsin River Power Company

Wisconsin Public Service Corporation

affiliates:

Wisconsin River Power Company
Wisconsin Valley Improvement Company
Delores Bench General Partner, Inc.

* Inactive

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IN THE
Supreme Court of the United States
OCTOBER TERM, 1983

ALABAMA POWER Co., *et al.*,
Petitioners,
v.

SIERRA CLUB, *et al.*,
Respondents.

APPENDIX TO
PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

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February 1984

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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 82-1384

SIERRA CLUB and NATURAL RESOURCES
DEFENSE COUNCIL, INC., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, RESPONDENT
ALABAMA POWER COMPANY, et al.,
KENNECOTT MINERALS Co.,
TENNESSEE VALLEY AUTHORITY,
STATES OF NEW YORK, et al.,
STATE OF VERMONT,
AMERICAN PETROLEUM INSTITUTE, et al., INTERVENORS

No. 82-1412

COMMONWEALTH OF PENNSYLVANIA, PETITIONER

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, and
ANNE M. GORSUCH, ADMINISTRATOR, RESPONDENTS
STATES OF NEW YORK, et al.,
ALABAMA POWER Co., et al.,
STATE OF VERMONT,
AMERICAN PETROLEUM INSTITUTE, et al., INTERVENORS

No. 82-1845

SIERRA CLUB and NATURAL RESOURCES
DEFENSE COUNCIL, INC., PETITIONERS

v.

ENVIRONMENTAL PROTECTION AGENCY, RESPONDENT
ALABAMA POWER COMPANY, et al.,
AMERICAN PETROLEUM INSTITUTE, et al., INTERVENORS

No. 82-1889

COMMONWEALTH OF PENNSYLVANIA, PETITIONER

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY, and
ANNE M. GORSUCH, ADMINISTRATOR, RESPONDENTS
ALABAMA POWER COMPANY, et al.,
AMERICAN PETROLEUM INSTITUTE, et al., INTERVENORS

Petitions for Review of Orders of the
Environmental Protection Agency

Argued April 18, 1983

Decided October 11, 1983

Richard E. Ayres and Howard I. Fox, for petitioners in
Nos. 82-1384 and 82-1845.

Thomas Y. Au, Assistant Counsel, Commonwealth of
Pennsylvania, was on the brief for petitioners in Nos.
82-1412 and 82-1889.

Catherine A. Cotter, Attorney, Department of Justice,
of the bar of the Supreme Court of California, *pro hac*
vice by special leave of Court, and *Christina Kaneen*,

Attorney, Environmental Protection Agency, of the bar of the Supreme Court of Illinois, *pro hac vice* by special leave of Court, with whom *Carol E. Dinkins*, Assistant Attorney General, Department of Justice, *Robert M. Perry*, General Counsel, and *Charles S. Carter*, Acting Assistant General Counsel, Environmental Protection Agency, were on the brief, for respondents. *Barry S. Neuman*, Attorney, Department of Justice, and *Jesse Carrillo*, Attorney, Environmental Protection Agency, also entered appearances for respondents in Nos. 82-1384, 82-1412, 82-1845 and 82-1889.

Henry V. Nickel, with whom *F. William Brownell* and *Michele Pollak* were on the brief, for intervenors, Alabama Power Co., et al., in Nos. 82-1384, 82-1412, 82-1845, and 82-1889.

Stark Ritchie and *David T. Deal* were on the brief for intervenors, American Petroleum Institute, et al., in Nos. 82-1384, 82-1412, 82-1845, and 82-1889.

Alfred V. J. Prather and *Kurt E. Blase* were on the brief for intervenor Kennecott Minerals Company in No. 82-1384.

James E. Fox was on the brief for intervenor Tennessee Valley Authority in No. 82-1384.

Francis X. Bellotti, *James R. Gomes*, and *Stephen M. Leonard* for Commonwealth of Massachusetts, *Robert Abrams* and *David R. Wooley*, for State of New York, and *Dennis J. Robert, II*, for State of Rhode Island, were on the brief for intervenors, State of New York, et al., in Nos. 82-1384 and 82-1412. *Val Washington* also entered an appearance for State of New York in No. 82-1384.

Before EDWARDS, Circuit Judge, MCGOWAN and MAC-KINNON, Senior Circuit Judges.

Opinion for the Court filed by Senior Circuit Judge MCGOWAN.

McGOWAN, *Senior Circuit Judge*: This case concerns the amount of credit electric power plants and other major sources of air pollution may receive for the height of their emissions stacks in calculating limitations on their emission of pollutants.

Under the Clean Air Act as amended ("the Act") and its regulations, emissions limitations for each such source are fixed on the basis of local, ground-level concentrations of pollutants, which cannot exceed certain national standards or incremental increase limitations. Since taller stacks tend to disperse pollutants over a greater area, a utility or other source can lower the ambient pollution concentrations not only by reducing the amount of pollutants it emits into the air, but also by raising the height of its stack. After the basic provisions of the Act were passed in 1970, many chose the latter route. In 1977 amendments to the Act, Congress declared that such tall stacks and other dispersion techniques were not to be taken into account in calculating the limitations on emissions imposed by the Act. 42 U.S.C. § 7423 (Supp. V 1981). Rather, pollution standards were to be achieved by direct limitations on emissions. The present case brings before us final regulations issued by the Environmental Protection Agency (EPA) to implement this provision.

The regulations at issue are detailed and somewhat complex. Generally speaking, under the 1977 amendments credit for stack height in calculating emissions limitations is limited to the height dictated by "good engineering practice" (GEP). *Id.* § 7423(a)(1). This height was defined by Congress to be that necessary to ensure against certain kinds of localized atmospheric disturbance created by the source itself or nearby obstacles, and resulting in excessive concentrations of pollutants in the immediate vicinity of the source. *Id.* § 7423(c). The regulations under review define a number of the statutory terms, such as "nearby" and "excessive," provide

various methods for determining GEP height and determine when each may be used, implement a statutory bar on credit for use of "dispersion techniques" other than stack height, define a statutory "grandfather" clause for pre-1970 stacks, and provide a timetable for implementation of the regulations by the states, which are the primary enforcers of the Act.

We have reviewed carefully the specific provisions challenged here. Among them we find certain aspects of the regulatory scheme to be contrary to the terms of the statute and others to be arbitrary and capricious exercises of the discretion conferred on the EPA by the Act. These provisions must therefore be overturned. We remand certain other provisions for further consideration by the agency in light of our discussion here. The remainder of the challenged regulations we uphold.

I

The events leading up to the enactment of the section of the Clean Air Act Amendments of 1977 involved in this case have been described in our opinion in *Alabama Power Co. v. Costle*, 636 F.2d 323, 388-91 (D.C. Cir. 1979),¹ and in the House committee report accompanying those amendments, H.R. REP. NO. 294, 95th Cong., 1st Sess. 81-92 (1977) [hereinafter cited as HOUSE REPORT]. Briefly, under the drastic overhaul of the Clean

¹ *Alabama Power* brought before this court regulations implementing the Act's prevention of significant deterioration (PSD) program, intended to protect areas still having relatively clean air, 42 U.S.C. §§ 7470-7491 (Supp. V 1981). See 43 Fed. Reg. 26,380, 26,388 (1978). Included was a provision that in determining a source's emissions limitations, both the source and surrounding polluters would have their emissions modeled as though they were emitted at GEP height. Industrial petitioners urged that only the emissions from the source itself should be modeled at GEP height; the surrounding facilities should be modeled with their actual stack heights. We upheld the regulation. See 636 F.2d at 388-92. The instant case concerns, *inter alia*, the method of setting GEP height for each source.

Air Act undertaken in 1970, EPA was directed to prescribe national ambient air quality standards for various pollutants. 42 U.S.C. § 1857c-4 (1976). Upon promulgation of an air quality standard, each state was required to adopt and submit to EPA a state implementation plan providing for attainment and enforcement of the standard. *Id.* § 7410(a).

Initially, EPA approved state plans that authorized, in place of direct limitations on emissions, the use of tall stacks to meet air quality standards. EPA also allowed the use of other dispersion techniques called supplemental or intermittent control systems, which are programs that vary the release of pollutants over time depending on whether meteorological conditions favor dispersion. EPA's policy was overturned by the courts, which, led by the Fifth Circuit, ruled that the Act allowed reliance on dispersion techniques only after implementation of "the maximum degree of emission limitation achievable." *NRDC v. EPA*, 489 F.2d 390, 410 (5th Cir. 1974), *rev'd on other issues sub nom. Train v. NRDC*, 421 U.S. 60 (1975); see *Kennecott Copper Corp. v. Train*, 526 F.2d 1149, 1151-60 (9th Cir. 1975), *cert. denied*, 425 U.S. 935 (1976); *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16, 20-22 (6th Cir. 1975), *cert. denied*, 425 U.S. 934 (1976). "Informed as well as chastened by these judicial decisions," *Alabama Power*, 636 F.2d at 390, EPA in 1976 issued guidelines that, while placing primary emphasis on emissions reductions, allowed the use of tall stacks to meet ambient standards in two situations: (1) where the source was already using "the best available emission control technology," or (2) where use of such technology would be "economically unreasonable or technologically unsound." Stack Height Increase Guideline, 41 Fed. Reg. 7450, 7451-52 (1976) [hereinafter cited as 1976 Guideline].²

² The predecessor to this guideline was evidently issued only after the initiation of a contempt proceeding for failure

Congress emphatically rejected this approach in the 1977 amendment of the Act that is the subject of the present controversy. In introducing the bill on the Senate floor, Senator Muskie criticized the 1976 guidelines for allowing any use of tall stacks whatsoever in meeting ambient standards: "Far from prohibiting the construction of tall stacks or the use of intermittent controls, the guidelines provide that once minimal emission control requirements are met, polluters are encouraged to substitute unlimited stack height for any further control of emissions." 123 CONG. REC. 18,027 (1977). The mood in the House was the same, *id.* at 16,203 (remarks of Rep. Waxman, a sponsor of the House bill) ("The committee has unequivocally rejected the use of tall stacks and intermittent controls as a final means of compliance with the Clean Air Act's requirements."), and in section 123 of the amended Act Congress banned virtually all reliance on tall stacks or "any other dispersion technique" in achieving compliance with ambient air quality standards, 42 U.S.C. § 7423(a) (Supp. V 1981).

Congress did not, however, actually prohibit tall stacks or limit their height; in fact, section 123 specifically enjoins the EPA Administrator ("the Administrator") from prohibiting any increase in stack height or restricting the height of any stack in any manner. *Id.* § 7423(c). Rather, the law limits the credit that may be obtained for such stack height in determining whether the plant will cause ambient air standards to be violated or increase pollution by too large an increment. The credit system is based on techniques of modeling whereby, via

to comply with the Fifth Circuit's order in *NRDC v. EPA*. See *NRDC v. EPA*, 529 F.2d 755, 760 (5th Cir. 1976) ("We deny the [contempt] motions . . ., noting however, that such motions apparently were necessary to compel the Administrator to respond to our directive issued more than a year before.").

mathematical or small-scale physical demonstrations, a plant's emissions can be assumed to emerge from a certain stack height and then mapped as they fall to earth in order to see their effect on ambient pollution. Thus, section 123 is intended to eliminate any credit a plant might receive for the dispersive effects of a tall stack in the calculation of its emissions limitations, although the stack itself remains in place.

There were essentially three reasons for Congress's refusal to allow reliance on tall stacks and intermittent control measures. First, dispersion techniques do not reduce the amount of pollution in the air, but merely spread it around, exporting it to other areas where it is too late to control the problem, and exposing previously pristine areas to contamination. See, e.g., HOUSE REPORT, *supra* p. 5, at 84-85. Second, the long-range transport of certain pollutants was also linked to the formation of "acid rain," which is precipitation containing acidic derivations of sulfur oxide and nitrogen oxide emissions. Acid rain was thought responsible for reduced soil and water productivity in certain areas, particularly the Northeast and Canada. See, e.g., *id.* at 83-84, 85-86; 123 CONG. REC. 18,026 (1977) (remarks of Sen. Muskie). Third, intermittent control systems, which are dependent on synchronizing plant operation with weather conditions, were thought to be unreliable and virtually impossible to enforce. See, e.g., *id.*; HOUSE REPORT, *supra* p. 5, at 82-83, 87.

In rejecting the limited permission to use dispersion techniques contained in the 1976 guidelines, however, Congress largely adopted the distinction drawn in those guidelines, and in a 1973 stack height proposal, between stack heights that would be allowed without question and those that would be regarded as a dispersion technique. See *id.* at 93 (statute "affirm[s]" the standard used by the Administrator). This distinction is the main battleground of the present litigation. The guidelines had

based the distinction on "good engineering practice," which the preamble to the 1973 proposal defined as follows:

[A] stack which conforms to good engineering practice is sufficiently tall that emissions from the stack are not significantly affected by the atmospheric downwash, eddies, or wakes created by the facility or nearby structures and terrain. Emissions from stacks which are shorter than required by good engineering practice often can cause excessively high ground level concentrations and nuisances within, and in the immediate vicinity of, the facility.

Use of Supplementary Control Systems and Implementation of Secondary Standards, 38 Fed. Reg. 25,697, 25,700 (1973) (proposed rules) [hereinafter cited as 1973 Guidelines]. Congress appears to have taken the main elements of this statement in its definition of good engineering practice height. Section 123 defines that height as

the height necessary to insure that emissions from the stack do not result in excessive concentrations of any air pollutant in the immediate vicinity of the source as a result of atmospheric downwash, eddies and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles.

42 U.S.C. § 7423(c) (Supp. V 1981).

As the quoted language from the 1973 proposal suggests, downwash, eddies, and wakes are caused by the wind hitting structures or other obstacles near the stack. The turbulence created in the wake of the obstacles tends to suck a plume of emissions down to the earth before it has had a chance to disperse, resulting in inordinately high pollution concentrations near the plant. *See also* HOUSE REPORT, *supra* p. 5, at 93 ("Without some provision for stack height, a plume released downwind of such a structure might become engulfed by turbulent eddys [sic] within the wake of the structure."); 122 CONG. REC. 34,384 (1976) (remarks of Sen. Muskie) ("This is

necessary in order to allow good plume rise without downwashing the plume onto the local area.”).

While the statute generally left the determination of GEP stack height to regulations to be promulgated by the EPA Administrator, it set an upper limit of two-and-one-half times the height of the stack's source. 42 U.S.C. § 7423(c) (Supp. V 1981). This, too, was taken from the 1973 and 1976 guidelines. See 1976 Guideline, *supra* p. 6, at 7451-52; 1973 Guidelines, *supra* p. 9, at 25,700, 25,701. The formula was seen as codifying “the stack height-nearby structure relationship that has been looked to historically as a responsible way of dealing with the problem of aerodynamic downwash.” HOUSE REPORT, *supra* p. 5, at 93. While the guidelines used the two-and-one-half-times standard as the standard GEP stack height, however, Congress was clear in its conference report that the statutory formula was generally intended to be an upper limit, and that if EPA found that the problem of downwash, eddies, and wakes could be prevented by stacks of less than two-and-one-half times facility height, it was to give credit only for the lower height. 123 CONG. REC. 27,071 (1977) (Clean Air Conference Report (1977): Statement of Intent; Clarification of Select Provisions). Nevertheless, like the guidelines, the statute provides that a plant operator can get credit for a greater-than-formula height by demonstrating to the satisfaction of the Administrator that a greater height is needed to prevent the downwash problem described in the Act. 42 U.S.C. § 7423(c) (Supp. V 1981).

In barring any credit for tall stacks and other dispersion techniques, Congress believed it was merely reaffirming a command it had given in the 1970 Clean Air Act amendments. It “intended to ratify the general thrust, if not the specific holdings, of the three U.S. courts of appeals” that had interpreted the earlier Act to bar primary reliance on such techniques. HOUSE REPORT, *supra* p. 5, at 91. As a result, the section's grand-

father clause provides an exemption only for stacks "in existence" or dispersion techniques "implemented" before the date of the 1970 amendments, and not for those built between 1970 and the enactment of the 1977 amendments. 42 U.S.C. § 7423(a) (Supp. V 1981); see HOUSE REPORT, *supra* p. 5, at 93.

Section 123 directs EPA to issue regulations implementing these provisions by February 7, 1978, 42 U.S.C. § 7423(c) (Supp. V 1980) ("[n]ot later than six months after August 7, 1977"), and the states are directed to revise their applicable implementation plans, as necessary, within nine months of the promulgation of EPA's regulations, *id.* § 7401 note (the later of one year after enactment of the Act or nine months after promulgation of EPA regulations). Proposed regulations were not issued until January 12, 1979, however. Stack Height Regulations, 44 Fed. Reg. 2608 (1979). Under a court-ordered timetable, *Sierra Club v. Gorsuch*, No. 81-0094 (D.D.C. June 22, 1981, modified Aug. 20, 1981, and Feb. 17, 1982), EPA then issued a revised set of proposed regulations on October 6, 1981, 46 Fed. Reg. 49,814 (1981), and finally issued final regulations on February 8, 1982, 47 Fed. Reg. 5864 (1982) (to be codified in 40 C.F.R. §§ 51.1, 51.12, 51.18). Petitioners NRDC and Sierra Club filed motions for reconsideration on various grounds, all of which were denied. Petitions for review were then filed in this court under the Act's sixty-day review provision. 42 U.S.C. § 7607(b) (Supp. V 1981).

The core of the new regulations is the determination of GEP stack height. The rules provide three methods; a source operator may use whichever of the methods yields the greatest GEP height. First, a "de minimis height" of sixty-five meters is permitted for all sources regardless of the size or location of any structures or terrain features. 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(ii)(1)). The Administrator stated that this height represented "a reasonable estimate of the

height needed to insure that emissions will not be affected by common ground-level meteorological phenomena which may produce excessive pollutant concentrations." *Id.* at 5865. The de minimis feature is not challenged in this case.

Second, the regulations provide two mathematical formulas, one to be used by stacks in existence on January 12, 1979, the date of publication of EPA's original proposed rules, and the other for stacks whose construction commenced after that date. The formula to be used by the earlier stacks is what the Administrator termed "the traditional engineering formula of two and one-half times the height of the nearby structure" (hereinafter called the 2.5 Rule). *Id.* The second formula is a refinement of the first that is intended to reflect the reduced height needed to surmount the less severe downwash effects produced by tall, thin structures. *See* 46 Fed. Reg. at 49,815. The refined formula gives credit for the height of the nearby structure plus one-and-one-half times the lesser of the height or width of the structure (hereinafter called the 1+1.5 Rule). 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(ii)(2)(ii)). Under either formula, only "nearby" structures may be used. "Nearby" is defined as a distance from the stack of five times the lesser of the height or width of the structure itself, up to one-half mile. *Id.* at 5869 (to be codified at 40 C.F.R. § 51.1(jj)).

The third method for calculating GEP stack height is by a physical demonstration, either a fluid model or a field study. This method must be used to obtain credit for downwash produced by terrain features or by any obstacle that is not "nearby." The demonstration must show that a greater-than-formula height is needed to ensure that emissions from the stack do not result in excessive concentrations of any air pollutant. *Id.* at 5868-69 (to be codified at 40 C.F.R. § 51.1(ii)(3)). "Excessive concentrations" is defined as maximum concentra-

tions of a pollutant at least forty percent in excess of the maximum concentrations of the pollutant in the absence of the downwash, eddy, or wake effects. *Id.* at 5869 (to be codified at 40 C.F.R. § 51.1(kk)).

We will describe other details of the challenged regulations as needed in dealing with each of petitioners' objections to the new rules. We will discuss first those objections going roughly to the formulation and operation of the three methods, next those going to when the various methods are applied, then objections to certain exemptions from the regulations, then the various grandfather clauses provided by the regulations, and finally an objection to EPA's timetable for state implementation of the regulations.

II

A. Definition of "Nearby"

As noted, the new regulations define "nearby" for purposes of application of the formulas as five times the height or width of the structure, up to one-half mile. There is no specific limit on the distance that structures and terrain obstacles may be from the stack in order to be taken into account in a demonstration. NRDC and Sierra Club argue that Congress intended to limit the structures and terrain obstacles that may be said to cause downwash to those within one-quarter mile of the stack, so that the regulations are contrary to law with regard to both the formulas and demonstrations.

The source of petitioners' argument is certain language in the House Report that they say indicates Congress's understanding that "nearby" meant no more than one-quarter mile away. The Report's discussion of the term is as follows:

In affirming the 2½ times standard used by the Administrator, the committee referred to downwash problems created by both manmade structures and to terrain features located "nearby" the source. The committee intends that the term "nearby" be strictly

construed, in keeping with the general policy of statutory interpretation favoring strict construction of exceptions and variances. If this term were construed too broadly (*that is, to apply to manmade structures or terrain features one-fourth to one-half mile away from the source or more*), the result could be an open invitation to raise stack heights to unreasonably high elevations and to defeat the basic underlying committee intent.

HOUSE REPORT, *supra* p. 5, at 93 (emphasis added).

EPA apparently selected the one-half-mile limitation solely in response to this expression of congressional intent; it itself believed that downwash effects occur at greater distances from the obstacles and that the five-times-height-or-width rule was a better approximation of the longevity of those effects than is the one-half-mile limit. See 44 Fed. Reg. at 2610; 46 Fed. Reg. at 49,819.

We agree that the one-half-mile limitation is a sufficient response to the congressional intent. The statute specifically gives the EPA Administrator discretion to promulgate regulations to determine GEP height and the House report clearly indicates that that discretion extends to defining terms such as "nearby" as necessary, presumably in light of the Administrator's expertise. The report standing alone is ambiguous on whether it was trying to impose a specific limitation on the definition of "nearby," but when read in light of the statute's broad conferral of discretion it is most readily interpreted as an attempt only to suggest the scale of magnitude that the committee had in mind, and not to pick a specific figure. The one-half-mile limitation that EPA chose is at or near the outer edge of the range Congress was thinking of, but it does not go beyond it. Thus, we find the Administrator's choice to be consistent with both the legislative history and the statute.

The refusal to give any content to the statutory term "nearby" when applied to demonstrations is quite a dif-

ferent matter.³ The rationales offered were that (1) some obstacles create downwash effects at distances of more than one-half mile, (2) the fluid modeling methods would accurately tell precisely when such effects were occurring, and (3) the boundaries of many terrain features are not always distinct and thus a specific distance limitation would be difficult to apply. See 46 Fed. Reg. at 49,819; see also *id.* at 49,821 (accuracy of fluid modeling). Thus, the Administrator believed that the statute was intended to allow credit for the height needed to avoid the effects of *any* downwash that could cause excessive concentrations of pollutants.

While such an approach might make a good deal of sense, we do not think it is the approach commanded by the statute. The primary support for the Administrator's reading is that the language from the House Report quoted above, which places great emphasis on the word "nearby" as a carefully imposed limitation on the determination of GEP height, discusses the term only in connection with the formula method, not the demonstration technique. The Report discusses demonstrations in a different paragraph and does not mention the word "nearby" there at all. HOUSE REPORT, *supra* p. 5, at 93.

Moreover, applying the "nearby" limitation only to the formula method and not to demonstrations would certainly be rational because, unlike demonstrations, the formulas do not otherwise select the obstacles to be taken into account. Without some limitation, the for-

³ EPA somewhat lamely suggested that the new regulations do in fact give some meaning to the word "nearby" as applied to demonstrations: "Any terrain feature which is close enough to a source to cause excessive concentrations must be considered a 'nearby' feature." 46 Fed. Reg. at 49,819. If this were the statute's command, it would be no different if the word "nearby" did not apply to demonstrations. Thus, "nearby" must effectively be read out of the statute in order to reach EPA's interpretation.

mulas could conceivably be used to give credit for the height of any obstacle upwind of the stack, even though the turbulence created in the wake of those obstacles could not possibly disrupt the plume. Demonstrations, however, do select the obstacles that will be taken into account, because they more accurately tell which will actually cause downwash.

Nevertheless, the legislative history is not explicit enough to refute the clear thrust of the statutory language. In describing the demonstrations that are permitted, the statute states that the operator may show "that a greater height [than two-and-one-half times the height of the source] is necessary *as provided under the preceding sentence.*" 42 U.S.C. § 7423(c) (Supp. V 1981) (emphasis added). The "preceding sentence" defines "good engineering practice" as the height necessary to ensure that excessive concentrations will not result from downwash created by the source, "*nearby structures or nearby terrain obstacles.*" *Id.* (emphasis added). Thus, the statute explicitly applies the "nearby" limitation to demonstrations.

If such a reading were utterly nonsensical, we might be tempted, as a matter of interpretation of likely intent, to strain the statutory language to arrive at a more rational result. *See, e.g., American Tobacco Co. v. Patterson*, 456 U.S. 63, 71 (1982) ("Statutes should be interpreted to avoid . . . unreasonable results whenever possible."); 2A C. SANDS, STATUTES AND STATUTORY CONSTRUCTION § 45.12 (4th ed. 1973) (same). But such an approach to interpretation of statutes must be used with utmost caution, for the line between irrationality and mere bad policy is a wavering and uncertain one. Here, sense can be made of a limitation on the stack-height credit operators may receive in addition to the requirement that the height be necessary to avoid excessive concentrations of pollutants in the immediate vicinity of the plant. When EPA originally proposed

these regulations in 1979, for example, it apparently intended some version of the "nearby" limitation to apply to demonstrations; it explained that it interpreted "the Congressional guidance as a criterion to indirectly establish a reasonable upper limit on GEP stack heights." 44 Fed. Reg. at 2610; *see id.* at 2611 ("As in the case of GEP determinations using the empirical equation, the definition of 'nearby' is integral to determine the extent to which structures or terrain features may reasonably influence the fluid modeling or field study based GEP determination."). That is, Congress may merely have wanted to place an absolute cap on the credit a source could receive for a tall stack, perhaps out of a distrust of the political and scientific methods by which the agency's determinations of stack height credit were to be made.

In addition, as the Administrator's rationale for eliminating the "nearby" limitation suggests, that limitation will primarily affect sources located in hilly terrain, since it is unlikely that a manmade obstacle will be large enough to create downwash problems at distances of greater than half a mile. Yet there are strong indications in the legislative history that Congress specifically sought to discourage utilities from locating in hilly terrain, because such locations tend to require very tall stacks, leading to greater dispersion of pollutants. For example, the House report states that it was "the expectation of this committee that persons responsible for siting new facilities will not locate them next to terrain features which will produce . . . downwash." HOUSE REPORT, *supra* p. 5, at 93. *See infra* pp. 37-38 (other indications of this intent). Applying the "nearby" limitation to all methods of deriving GEP heights may be further evidence of Congress's lack of solicitude for utilities located next to mountains (as opposed to those located next to very local, and presumably smaller, terrain features that may be surmounted with less stack height).

Finally, even if there is an element of arbitrariness in Congress's applying the "nearby" limitation to demonstrations, we note that the entire GEP stack height allowance was already regarded as something of a concession from the strict command that dispersion not be used to meet air quality standards. Congress may simply have been unwilling to compromise further the predominant purpose of reducing emissions in order to take account of what it may have regarded as fairly attenuated claims of downwash. There is frequently some arbitrariness when a lawmaker says, "Thus far and no further," but such lines frequently must be drawn.

The statutory language must thus be interpreted to apply "nearby" to demonstrations as well as to the formulas as a limitation on the amount of downwash that will be taken into account in giving credit for stack height. We remand, therefore, for the EPA to include new regulations that apply the same "nearby" limitation to demonstrations as is applied to the formulas.

B. *Definition of "Excessive Concentrations"*

When a source owner seeks to obtain credit for stack height greater than provided by the formulas, it must demonstrate that downwash can be expected to cause "excessive concentrations" of pollutants in the vicinity of the plant. The regulations define "excessive concentrations" as a forty-percent increase over the levels in the absence of the downwash-creating obstacle. 47 Fed. Reg. at 5869 (to be codified at 40 C.F.R. § 51.1(kk)).

Petitioners NRDC and Sierra Club argue that such a definition is arbitrary and capricious because it does not measure any absolute amount of pollutant that is a danger to health or welfare, but instead invokes a relative measure. They state that the forty-percent rule would permit a source located in a very clean area to raise its stack height credit, even if the downwash avoided would only increase pollutant concentrations by

a very small amount that would be of no harm to anyone. They urge a return to a standard like the one EPA originally proposed in 1979. Under that standard a source would have had to show that downwash would *both* increase pollutant concentrations by at least forty percent and cause a violation of a national ambient air quality standard or, in certain areas, an incremental increase limitation. 44 Fed. Reg. at 2611.

EPA eliminated the second of these criteria—requiring a violation of an air quality standard—in 1981. It said that its air quality standards and incremental limitations are unable to measure the high pollutant concentrations of extremely short duration that are typical of downwash. 46 Fed. Reg. at 49,819. This is because the standards measure pollutants after they have dispersed in the air, not in the concentrated doses caused by downwash. *Id.* Also, the standards measure average concentrations over time periods ranging from one hour to one year, which is too long to measure accurately the peak concentrations of downwash pollutant. *Id.* (In this court, EPA states that it is currently reviewing its SO₂ standard to determine whether a short-term standard is necessary to protect public health. Brief of Respondents at 35 n.27.)

Thus, only the forty-percent test was left. In this circumstance, the basis for, and derivation of, that test become especially important.

The forty-percent figure was derived from a review of the scientific literature on stack heights, including reports of wind tunnel tests EPA itself conducted during the rulemaking. EPA discovered a consensus in the literature that "the well established 2.5 times rule" was the stack height necessary to avoid "significant effects" for most buildings. The 1+1.5 Rule was found to be the consensus for tall, thin buildings. *See* Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regula-

tions) (July 1981), Joint Appendix (J.A.) at 1086 [hereinafter cited as Technical Support Doc.].

EPA then looked to the amount by which ground-level concentrations of pollutant were increased when a 2.5 or 1+1.5 stack was in place. It found that these formulas did not eliminate all effects of downwash but limited increased concentrations to roughly forty to eighty percent over the preexisting concentrations, with eighty percent representing an unusually high amount. *See id.* at 1096. EPA reasoned that if under traditional engineering practice the increase in concentrations was limited to about forty percent, then increases over forty percent could be regarded as excessive. *See* Draft Technical Support Document for Determination of Good Engineering Practice Stack Height (July 31, 1978), J.A. at 42 (Where range of increases recorded at GEP height was 20% to 40%, report concluded that "an increase in maximum concentrations less than 20% is less than expected for GEP stack height while an increase in maximum concentrations greater than 40% is excessive.").

The forty-percent figure is thus the lesson of history: it is what the engineering community has regarded as too much downwash. NRDC and Sierra Club argue that this approach is all wrong, since Congress's real concern in encouraging stack heights high enough to prevent "excessive concentrations" of downwash was the protection of human health. Therefore, they say, EPA must exercise its own independent judgment and define the term to allow enough height to prevent health-threatening downwash, and no more. Because the forty-percent standard is based on a relative value that varies with background concentrations, NRDC and Sierra Club assert, it does not measure the absolute levels of pollutant that are a danger to health.

Our review of the statute and its legislative history discloses sharply conflicting signals on whether Congress intended to legislate the preexisting engineering practice

or only so much stack height as would protect health or welfare. On the one hand, the primary statutory standard was "good engineering practice," suggesting an intent to mandate whatever engineers had been doing. Moreover, the entire purpose of the statute was to remedy an abuse that had arisen whereby polluters were building stacks solely to evade Clean Air Act requirements; Congress may well have wanted to return to whatever engineers would do in the absence of the Act. In addition, the statute explicitly endorsed the standard—the 2.5 Rule—that Congress thought was the traditional engineering practice.

Nevertheless, Congress did not stop there, for it provided a very precise definition of what it regarded as "good engineering practice," suggesting that it did not intend to leave the question of stack heights entirely to professional standards. While the statutory term at the center of that definition, "excessive concentrations," is ambiguous—it could be read as either in excess of the previously recognized standard or in excess of some absolute standard, such as safety—the legislative history points strongly in the direction of a meaning turning on danger to public health. The House committee report describes why downwash can be a problem in the following terms: "When this [downwash] occurs even the plume from a well-controlled source may cause air quality standards (or other requirements) to be violated." HOUSE REPORT, *supra* p. 5, at 93. We think it a strain to refer to the previously recognized standard as a "requirement"; it seems likely that the committee was referring to other legal requirements, such as state nuisance law or the Clean Air Act's prevention of significant deterioration increments.

EPA's 1973 stack height guidelines, which, as we have said, appear to have been Congress's main source for the statutory language, also strongly suggest that the evil sought to be avoided by good engineering practice was

tied to some minimum level of danger or inconvenience to the community. They provided:

Emissions from stacks which are shorter than required by good engineering practice often can cause excessively high ground level concentrations and nuisances within, and in the immediate vicinity of, the facility. . . . The use of stack height up to the level of good engineering practice is encouraged by EPA in order to avoid local nuisances.

1973 Guidelines, *supra* p. 9, at 25,700; see also, e.g., *Commonwealth v. South Covington & C. St. Ry.*, 181 Ky. 459, 463, 205 S.W. 581, 583 (1918) ("[A] common or public nuisance is the doing of or failure to do something that injuriously affects the safety, health, or morals of the public, or works some substantial annoyance, inconvenience, or injury to the public"); *United States v. County Board*, 487 F. Supp. 137, 143 (E.D. Va. 1979) ("The term 'nuisance' . . . includes everything that endangers life or health, gives offense to the senses, violates the laws of decency, or obstructs the reasonable and comfortable use of property.").

What seems most likely is that Congress thought traditional engineering practice and protection of health were the same thing. If that is the case, however, what are we to do if it develops, as NRDC and Sierra Club argue, that traditional engineering practice in fact dictates a height that is in some cases much higher than necessary to protect human health? We are saved from the full rigors of this potential conundrum by the conference committee. Its report states:

[I]f it should be determined that downwash, eddies, and wakes can be prevented by stacks of less than $2\frac{1}{2}$ times facility height, the Administrator's rule should give 'credit' only for the height needed to avoid these conditions.

. . . In other words, it was not our purpose to make a Congressional judgment about what stack

height was needed to prevent downwash. We intend EPA to make this judgment, subject only to the Congressional prohibition on the excessively high stacks of over $2\frac{1}{2}$ times building height.

123 CONG. REC. 27,071 (1977).

What this passage suggests is that Congress wanted the Administrator to determine the height necessary to avoid excessive concentrations of downwash-caused pollution. Since Congress believed that the 2.5 Rule was in fact the good engineering practice rule, *see* HOUSE REPORT, *supra* p. 5, at 93 ("A stack height value produced by reference to this historical relationship is referred to as 'good engineering practice' stack height and has been used by EPA in its regulations."), the passage suggests that the conference committee saw the possibility of a distinction between its definition of the amount of downwash to be avoided and what engineers had been doing. If that turned out to be the case, the committee was clear that the statute's definition would govern. Thus, development of a standard governing the height of stacks by reference *solely* to what engineers had been doing, with no regard for some real life values, was contrary to the intent of Congress.

Reading the House committee report as a whole confirms this view. It begins its discussion of the details of the bill with the observation that downwash is a problem because it causes air quality standards or other requirements to be violated, and only then discusses the "historically . . . responsible way of dealing with the problem." *Id.* This suggests that meeting air quality standards was primary in its mind and that good engineering practice was merely a way to do so.

Finally, we are considerably bolstered in our view that Congress was thinking primarily of dangers to health because that was the position originally taken by the Administrator. In the 1979 proposed regulations, primary re-

liance was placed on the requirement that the downwash in question cause a violation of air quality standards. The forty-percent proviso was merely intended, EPA wrote, "to establish a reasonable upper bound for creditable stack heights." 44 Fed. Reg. at 2611.

When EPA dropped the air quality standards as one of its criteria for measuring "excessive," it did not address whether the forty-percent test measured danger to health or welfare. Neither EPA nor the utilities that have intervened on its behalf have disputed the contention of Sierra Club and NRDC that the forty-percent rule, because it measures relative changes in "pre-existing concentration," cannot measure the absolute levels of pollutant that are a danger to health. See Brief of Petitioners at 39. We agree that the level of pollutant that is a danger to health is an absolute value: the Act clearly envisions that the national ambient air quality standards that are to protect health and welfare will be defined in terms of maximum concentrations of each pollutant, *see, e.g.*, 42 U.S.C. § 7409(c) (1976) (requiring promulgation of standard for "NO_x concentrations over a period of not more than 3 hours"), and that is the way the Administrator has consistently implemented the Act, *see, e.g.*, *American Petroleum Institute v. Costle*, 665 F.2d 1176 (D.C. Cir. 1981) (approving ozone standard of 0.12 parts per million), *cert. denied*, 455 U.S. 1084 (1982).

We disagree, however, with the petitioners' interpretation of the present regulation, and thus with their conclusion regarding the relation of the regulation to health. NRDC and Sierra Club appear to assume that the forty-percent increase in concentration is to be an increase over the preexisting levels in the area including background concentrations of pollutants. We believe, however, that the increase is to be measured against the amount of the source's own plume that falls to the ground even without downwash, regardless of preexisting or background concentrations of pollutant from other sources.

Petitioners' interpretation is arguably the most natural reading of the language of the regulation itself, which is as follows:

"Excessive concentrations" for the purpose of determining good engineering practice stack height in a fluid model or field study means a maximum concentration due to downwash, wakes, or eddy effects produced by structures or terrain features which is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

47 Fed. Reg. at 5869 (to be codified at 40 C.F.R. § 51.1(kk)). The regulation does not specify whether the "maximum concentration experienced in the absence of such downwash" is to be measured with or without pollutants generated by other sources. The 1979 proposal was similarly ambiguous. See 44 Fed. Reg. at 2614 (maximum concentrations "due in part or whole to downwash, wakes, or eddy effects").

The preamble to the final regulations, however, is explicit that the forty-percent standard requires the source to demonstrate that "maximum concentrations *caused by the source's emissions from its proposed stack height*, without consideration of nearby structures or terrain obstacles, will increase by at least 40 percent when the effects of the structures or terrain obstacles are considered." 47 Fed. Reg. at 5865 (emphasis added). Even more important, we see no reason why, as a scientific matter, one would rationally include background concentrations in the calculation.

Although this court's knowledge of the operation of downwash is admittedly rudimentary, it seems most likely that the amount of additional pollutant that is brought to the earth by means of downwash will somehow relate to the amount of the original fallout, either because fallout is a process similar to downwash and therefore pro-

duces proportionate amounts of grounded pollutants, or because both relate proportionately to the density of the plume. Presumably, therefore, the amount of a plume that falls to earth near the plant even in the absence of downwash is either an absolute number for all plumes emitted at a certain height or, more likely, varies with the density of the plume. Conversely, it seems unlikely that the amount of downwashed pollutant from a given stack height should vary with background concentrations of that pollutant in the area. That would mean that the eddies and whirlpools that bring the plume down to earth would operate more effectively the dirtier the surrounding air becomes, which, even if possible, seems odd. We conclude, therefore, that the forty-percent increase refers to an increase in the amount of pollutants from the plume that fall to the ground regardless of atmospheric conditions.

We have not had any argument on whether the regulation, so interpreted, in fact estimates dangers to health and welfare. On the one hand, it seems likely that it was such dangers to health and welfare that traditional engineering practice, from which the forty-percent figure was derived, sought to prevent, at least in a very rough way. On the other hand, EPA has not made this argument, relying instead on congressional approval of good engineering practice per se. In addition, the EPA scientists who derived the forty-percent figure did not describe it as an accurate measure of danger to health or welfare. It was rather a measure of what scientists conducting wind tunnel experiments in the past had thought was "a significant concentration difference" as they observed the smoke pouring out of their model smokestacks. See Technical Support Doc., *supra* p. 20, at 1092. The EPA scientists cautioned:

The visualized . . . studies can be strongly biased by the observer's eye and are extremely sensitive to the density of the smoke. The information from concen-

tration profiles is influenced strongly by where the traverse through the plume is made [to determine the plume centerline] and the judgment in determining what constitutes a significant concentration difference. . . .

. . . Although the consensus opinion in the scientific literature strongly supports using [the 1+1.5 Rule] to determine GEP stack height, actual studies could show the need for a much taller or lower stack depending on one's interpretation of what is a significant influence and on the effect of possible plume rise.

Id. at 1089-92 (emphasis added).

Moreover, we note that EPA chose the forty-percent figure from a range of increased concentrations produced by a stack 2.5 times the height of the obstacle, and forty percent was at the low end of that spectrum. The choice of forty percent as the definition of "excessive" is more consistent with an attempt to arrive at a reasonable upper limit on stack height—i.e., to place a floor on the amount of increased concentration that would justify an increased stack height—rather than an attempt to discern the historical concept of safe levels of downwash. Reliance on the lower figure alone also does not appear to be consistent with the clearly expressed congressional expectation that credit for stacks in excess of the 2.5 Rule would "be highly infrequent and that the latitude given the Administrator to allow full credit for such stack height [would] be exercised with circumspection and utmost caution in those rare circumstances proven to justify its use," HOUSE REPORT, *supra* p. 5, at 93.

Finally, apart from the intention of EPA in developing the forty-percent rule, we think it unlikely that even the reinterpreted present rule will measure an absolute pollutant concentration that is dangerous to health, rather than a range of concentration increases varying with the density of the plume and other factors. Of course, it may

be that, for all stacks large enough to be of concern, that range of increases will be entirely above the threshold of danger to health or welfare. EPA has not said so, however, and our examination of the derivation of the figure suggests strongly that that is not the case.

We think our best course is to remand the definition of "excessive concentrations" to the Administrator with instructions to develop a standard directly responsive to the concern for health and welfare that motivated Congress to establish the downwash exception. We do not condemn the historical approach EPA has taken to deriving that standard, but we caution EPA to be aware that it is writing under substantially different conditions from those that faced the engineers who first developed the rules of thumb for stack height. The engineers could be satisfied with a conservative rule that was absolutely sure to eliminate health hazards, but only local ones; EPA must be more stringent, since any extra height will mean increased emissions and longer transport of pollutants, both of which Congress has instructed the agency to minimize. Therefore, EPA must satisfy itself in some way independent of history that the standard it derives in fact fairly approximates the stack height level needed to protect local health and welfare; in doing so, moreover, it should err on the side of reducing stack height, in keeping with Congress's command that credit for stack heights above the 2.5 Rule height be granted with "utmost caution." These two precepts are the heart of our holding on this issue.

C. Failure to Consider Plume Rise

Plume rise refers to the tendency of exhaust gases to continue to rise after they leave the stack because of their momentum and heat. Petitioners NRDC and Sierra Club assert that in deriving the 1+1.5 and 2.5 Rules EPA has ignored plume rise. They argue that the failure to consider plume rise is arbitrary and capricious, because it

will lead to the prediction of excessive concentrations where none will occur since the "effective" height of the stack will be much higher than the physical height. Thus, they say, the GEP formulas will allow higher GEP height than needed to ensure against excessive concentrations of pollutant caused by downwash.

EPA admits that the formula does not take account of plume rise, but asserts that "[u]nder the very high wind conditions that cause downwash, no plume rise takes place near the source." Summary of Comments and Responses on the October 7, 1981 Proposal of the Stack Height Regulations (Dec. 1981), J.A. at 1190 [hereinafter cited as 1981 Responses]; accord Technical Support Doc., *supra* p. 20, at 1102 ("[T]he critical conditions for determining GEP stack height for most sources are considered likely to be high winds associated with neutral atmospheric stability with little plume rise near the sources."); see also 46 Fed. Reg. at 49,820 ("[T]he comments correctly pointed out that the technical support document was based on studies which did not include plume rise.").

NRDC and Sierra Club dispute this factual conclusion, citing two pieces of evidence. First, they point out that EPA's own regulations for running the demonstrations that operators may use to gain above-formula height require the inclusion of plume rise. See 46 Fed. Reg. at 49,820 ("Fluid models and field studies take into account gas flow rates and temperature, in addition to stack height. Accordingly, they will take into account some plume rise in establishing the GEP stack height."); Draft Guideline for Use of Fluid Modeling to Determine Good Engineering Practice Stack Height (June 1979), J.A. at 677-78, 680 [hereinafter cited as Fluid Modeling Guideline]. Second, they cite a report submitted by the Tennessee Valley Authority in this rulemaking that estimates the plume rise above the top of the stack during strong winds to be 99, 84, and 145 meters at 76, 91, and

305 meter stacks, respectively. See An Analysis of Terrain-Induced Aerodynamic Disturbances Near the Kingston Steam Plant, Kingston, Tennessee, at 1-1, Record at 77 app.

We view this as a factual dispute that we must review under the substantial evidence standard, see 5 U.S.C. § 706(2)(E) (1976). We side with EPA. Its conclusion that plume rise is not significant rests primarily on the wind tunnel studies cited in its technical support document, which did not provide for plume rise, yet derived approximately the same formula as apparently had arisen as "a practical formula" from years of empirical observation, presumably including any plume rise. Compare Technical Support Doc., *supra* p. 20, at 1080 ("This rule arose during the early part of this century as a practical formula. [A 1955 study] report[s] that the rule had been successfully used by the British electricity generating industry during the previous 20 years.") with *id.* at 1086 ("A review and evaluation of the current literature . . . reveals a consensus that [the 2.5 Rule is] the stack height necessary to avoid significant effects for buildings whose projected width is greater than its height. . . . [Otherwise, the 1+1.5 Rule is appropriate.]"). Since studies that do not account for plume rise arrived at the same conclusion that was derived from observations including plume rise, it seems fair to infer that at least the usual amount of plume rise does not have a significant effect on downwash. In response to concerns about the possibility of artificially increasing plume rise beyond the normal amount, EPA's regulations prohibit as a dispersion technique installation of fans and heaters intended to enhance plume rise. See 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(hh)); *id.* at 5867; 46 Fed. Reg. at 49,820; *infra* pp. 50-57.

That EPA has allowed operators to account for plume rise in demonstrations does not persuade us that the

1+1.5 Rule is unprincipled, because we think it entirely rational for EPA to be more concerned that even small amounts of plume rise be accounted for when a source is seeking greater height than provided by the formulas. Congress specifically directed that such increased height be allowed only "with circumspection and utmost caution in those rare circumstances proven to justify its use." HOUSE REPORT, *supra* p. 5, at 93. (The report was referring to heights in excess of the 2.5 Rule, but we think it clear that its thinking applies equally to the more accurate 1+1.5 Rule.) The formulas, on the other hand, are intended to be easy to apply and, of necessity, somewhat rough rules of thumb. We think such a dual approach was within the contemplation of Congress and is not a capricious use of EPA's limited resources.

Petitioners' citation of the significant plume rise reported in the TVA study does not substantially undermine EPA's assertion that plume rise is fairly insignificant under downwash conditions. The TVA report does not contradict EPA's finding that, particularly as wind speed increases, plume rise near the stack, where downwash occurs, is generally small even though plume rise further downwind may be significant. Such a phenomenon is an expected consequence of high wind conditions, and it is consistent with EPA's view that plume rise has little effect on downwash near the stack. See Fluid Modeling Guideline, *supra* p. 29, at 666 ("Under such conditions [high wind speed and neutral stability], plume rise near the source where its rise is dominated by momentum flux, will be small while its rise farther downwind may be largely due to buoyancy [heat] flux.").

We affirm the refusal to include plume rise in the derivation of the formulas.

D. Inclusion of Plume Impaction

Plume impaction occurs when a plume of exhaust gases emitted from a stack hits a higher hill or mountain down-

wind of the stack. Under stable atmospheric conditions, the plume can hit the mountain before it has dispersed, causing high concentrations on the mountainside. See 1981 Responses, *supra* p. 29, at 1166.

In response to comments received after its 1979 proposed regulations, EPA decided to allow credit for stack heights needed to avoid violation of national air quality standards on the elevated terrain. See 46 Fed. Reg. at 49,815-16. The new regulations allow a source to receive credit for the amount of its stack necessary to ensure that violations will not occur on the mountain as a result of the amount of the mountain's height that is above GEP height. 47 Fed. Reg. at 5869 (to be codified at 40 C.F.R. § 51.12(l)).⁴ Without plume impaction credit, the

⁴ The operation of the plume impaction credit is difficult to explain but, ultimately, ingeniously simple in conception. Three steps are involved. See 47 Fed. Reg. at 5867.

First, the GEP stack height is calculated with regard to downwash-causing obstacles. If a violation of air quality standards is predicted by reason of the plume hitting a mountain higher than GEP height, then the source may go to the second step. If no violation is modeled, then the source cannot claim impaction credit.

Second, an emission limitation is set by imagining that the mountain is as tall as the GEP stack height calculated in step one. Thus, it is assumed that the mountain is short enough to permit the GEP stack height to throw the plume over the mountain, and an emissions limitation is set so that no violation will occur on the truncated mountain.

The third step allows the source to raise its stack up to the level at which no violation will occur on the actual mountain. The emission limitation remains at the amount set in step two. That is, the source will receive credit for the height of the stack necessary to throw the plume over the mountain.

The impaction credit will result in a considerably higher emissions limitation than would be permitted if the source had to model its emissions at the original GEP height so as to avoid violations on the mountain. If carefully administered—e.g., if the emissions limitation required in step two reduces

source would have to reduce its emissions to prevent modeled violations on the mountainside.

Petitioners NRDC and Sierra Club argue that section 123 does not permit EPA to give credit for stack height necessary to avoid any phenomena other than "downwash, eddies and wakes," and that plume impaction is not one of these statutorily specified exemptions. Plume impaction is caused by obstacles downwind of the stack, rather than upwind of it, and generally occurs when there is little wind to disperse the plume, rather than when the wind is strong.

EPA admits that plume impaction is not the same as downwash, eddies, or wakes, but argues that they are sufficiently similar that the same rationale should apply to it. 47 Fed. Reg. at 5866 ("In all of these events, structures or terrain features interfere with plume dispersion."); 1981 Responses, *supra* p. 29, at 1167-68 ("These conditions are similar but independent of each other since they generally occur under different meteorological conditions."). The agency relies on its general authority under section 301 of the Act to "prescribe such regulations as are necessary to carry out [its] functions under [the Act]." 42 U.S.C. § 7601(a)(1) (Supp. V 1981).

EPA's construction of the statute is condemned by the general rule that when a statute lists several specific exceptions to the general purpose, others should not be implied. *See, e.g., A.H. Phillips, Inc. v. Walling*, 324 U.S. 490, 493 (1945) ("Any exemption from such humanitarian and remedial legislation must . . . be nar-

emissions to precisely the amount needed to avoid violations on the truncated mountain and no lower—the credit will, however, give the source an emissions limitation no higher than it would give a similar utility located in flat terrain. The result of the impaction credit will only be to allow the mountain utility, as compared to a source in flat terrain, to disperse the same or a lower amount of emissions over wider territory.

rowly construed"); *Colorado Public Interest Research Group, Inc. v. Train*, 507 F.2d 743, 747 (10th Cir. 1974) ("[W]here the legislature has acted to except certain categories from the operation of a particular law, it is to be presumed that the legislature in its exceptions intended to go only as far as it did, and that additional exceptions are not warranted.").

Had we any doubts that this rule should apply to this case, they are eliminated by the specific instruction in the House committee report that the term "nearby" should be "strictly construed, in keeping with the general policy of statutory interpretation favoring strict construction of exceptions and variances." HOUSE REPORT, *supra* p. 5, at 93; *see also supra* pp. 15-18 (discussion of meaning of "nearby"). Not only the word "nearby," but the entire permission to give credit for "good engineering practice" height constitute exceptions or variances. Congress sought to prohibit reliance on stack height to achieve air quality standards except in certain cases that it very specifically defined. The specified cases are where stack height is needed to prevent excessive concentrations resulting from "downwash, eddies and wakes." We should be extremely chary of adding any others.

EPA argues, however, that this rule should be softened when it appears that Congress was not informed of the problem and therefore did not deliberately omit it. EPA asserts that this is such a case. *See* 47 Fed. Reg. at 5866 ("Section 123 does not mention impaction. However, neither the language of the statute nor the legislative history show that this omission was deliberate."). We agree that where there is evidence that Congress considered or was informed of other things of more or less the same species as the ones placed in the statute, the case is stronger for inferring that the others were deliberately excluded. *See Lubrizol Corp. v. EPA*, 562 F.2d 807, 817-18 (D.C. Cir. 1977) (fact that hearing witness listed

several factors, including fuel and fuel additives, that affect automobile emissions suggests that at least some members of Congress did not expect statutory term "fuel" and "fuel additives" to include other potential causes of pollution, such as motor oil). We conclude, however, that the obverse rule advanced by EPA—that if there is no evidence that Congress knew of or considered the other things, the presumption should be that they are included in the statutory exception—would be contrary to the strict construction of exceptions directed by judicial doctrine and by the legislative history of this law. *Cf. Harrison v. PPG Industries*, 446 U.S. 578, 592 (1980) ("[I]t would be a strange canon of statutory construction that would require Congress to state in committee reports or elsewhere in its deliberations that which is obvious on the face of a statute.").

In any case, there is some evidence in the legislative history of the 1977 amendments that Congress was in fact made aware of the problem of plume impaction in hilly terrain. Representatives of electric utilities appeared before the congressional subcommittees considering the amendments and discussed the deleterious effects the new laws would have on utilities. They contended that several provisions in combination would limit the availability of plant sites in mountain areas. Among the provisions mentioned were those that sought to prevent the deterioration of clean-air areas, called prevention of significant deterioration (PSD) provisions, and the tall stacks section. Thus, a representative of the Edison Electric Institute, the principal national association of investor-owned electric companies, reported the following adverse effect of the amendments:

(2) More coal-fired power plants would have to be built in the mid-west and in eastern coastal plains and less in the Appalachians and the West because of the substantial penalties imposed on plant size by [PSD] and tall stack limits in areas of hilly terrain.

Clean Air Act Amendments of 1977: Hearing on S. 251, S. 252, and S. 253 Before the Subcomm. on Environmental Pollution of the Senate Comm. on Environment and Public Works, 95th Cong., 1st Sess. (pt. 2), at 231 (1977) (written testimony of Donald G. Allen).

Moreover, these limitations on siting were linked specifically to plume impaction by the testimony of E. Allan Hunter, president of the Utah Power & Light Co., before the same subcommittee. Mr. Hunter proposed a variance procedure for allowing certain plants to exceed the relevant PSD limitations for five percent of the year to account for those days on which plume impaction might occur:

Our problem lies in the nature of the topography out in Utah. Utah consists of narrow valleys, with mountainous or hilly terrain on either side. The mountainous terrain models [that] are now being used to predict pollutant concentrations indicate that perhaps a few days in the year under stagnant air conditions the SO₂ concentration on the adjacent hill-sides would exceed the allowable limits.

Id. at 37 (oral testimony); *see also id.* at 337 (written statement of Mr. Hunter) ("What we here urge is an alternative that would facilitate good plant siting . . ."); *id.* at 339 (same) ("This material [certain studies] does indicate that without . . . some relief from the short term plume impact on high terrain . . . , we cannot build sufficient capacity to supply the electric needs of our customers in the next twenty years."). Although these complaints were heard and became part of the congressional debate on the amendments, *see, e.g.*, 122 CONG. REC. 34,405 (1976) (remarks of Sen. Tower, opponent of the amendments) ("Studies by electric utility consultants concluded [that under PSD provision] only small, inefficient and uneconomical powerplants could be built in hilly terrain"); *infra* pp. 42-44, neither Mr. Hunter's proposal nor any other relief for mountainous areas was enacted in response.

Thus, although no one made explicit the link advanced in the regulations between taller stacks and plume impaction, these excerpts suggest that at least some members of Congress were aware that (1) requiring short stacks would somehow tend to preclude certain potential sites for power plants in hilly terrain, and (2) plume impaction was one reason that fewer such power plant sites would be available. It may be too much of a leap to say that Congress understood that taller stacks might help to reduce the effect of plume impaction, and rejected such an approach. But we think we may infer at least that the problems created by plume impaction and by requiring short stacks in hilly terrain were brought to Congress's attention, and Congress chose not to focus on, and resolve, them. This suggests a relative indifference to the problem of nearby mountains causing very stringent emissions limitations, an indifference that is at odds with the willingness to avoid the strict limitations that would be required because of downwash, eddies, and wakes, were it not for section 123.

Little more need be said to refute the argument raised in this court by a number of utility intervenors that excluding plume impaction from the calculation of emission limitations would result in much stricter limitations for utilities located in mountainous terrain than for ones located in the flatlands. Since this would mean a decline in jobs and industrial activity in mountain regions, the utilities argue, EPA has properly construed section 123 in light of the purpose stated in section 101 of the Act "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b) (1) (1976) (emphasis added).

In enacting section 123, Congress clearly did not intend to legislate geographic equality. In fact, it specifically expected that the tall stacks provision would have a disproportionately heavy impact on polluters in moun-

tain areas. Thus, the House committee report noted the committee's "expectation" that "persons responsible for citing new facilities will not locate them next to terrain features which will produce . . . downwash." HOUSE REPORT, *supra* p. 5, at 93. Moreover, it quotes EPA Administrator Douglas Costle's statement that the Administration thought it "'clearly preferable to require tighter controls or *more careful siting* to solve our air quality problems rather than disperse pollutants over greater distances.'" *Id.* at 92 (emphasis added). In his testimony, Mr. Costle went on to state, "If we later learn that tall stacks are essential for siting certain types of facilities, we would consider asking Congress for authority to allow tall stacks for such facilities in cases where public health would not be affected." *Clean Air Act Amendments of 1977: Hearings on H.R. 4151 & H.R. 4758 Before the Subcomm. on Health & the Environment of the House Comm. on Interstate & Foreign Commerce, 95th Cong., 1st Sess. (pt. 2), at 1679 (1977):*

Thus, we do not think section 123 permits EPA to take plume impaction into account in setting the degree of emission limitation required for sources in hilly areas. EPA's reliance on its general authority to make rules necessary to carry out its "functions" does not avail it, because, as we pointed out in *Lubrizol Corp. v. EPA*, 562 F.2d 807, 815 n.20 (D.C. Cir. 1977), a specific statutory directive "defines the relevant 'functions' of EPA," so that section 123 is the sole source of statutory authority.

We admit that there is much to commend EPA's action from a policy perspective. Without EPA's plume impaction provisions, the law discriminates harshly against utilities located in mountainous terrain, for it will require them to emit far less than their flatland counterparts. The only cost of allowing EPA to mitigate that discrimination by bringing flatland and mountain emissions limitations closer together would be that moun-

tain utilities would have to disperse their pollutants more widely. *See supra* note 4.

We note, however, that Congress viewed tall stacks as a problem not only because they did not decrease the loading of emissions into the air, but also, and independently, because they served to disperse pollutants more widely. Wide dispersion had been linked to the formation of acid rain, tended to export pollution to previously pristine areas, and made enforcement more difficult because of the difficulty of tracing dispersed pollutants back to their source. *See* HOUSE REPORT, *supra* p. 5, at 83-87; *see also* An Assessment of the Potential Effect of Stack Height on Sulfate Formation and Sulfur Deposition (December 1979), J.A. at 791 ("Tall stacks allow more sulfate formation and less [sulfur] removal than an equivalent release at lower heights . . ."). Of course, such wider dispersion is permitted anyway by the Act, *see* 42 U.S.C. § 7423(c) (1976) (EPA may not restrict in any manner the actual stack height of any source), but the plume impaction rules would encourage or, effectively, require it. It is conceivable that Congress would decline to encourage the very tall stacks no doubt needed to overcome plume impaction in mountainous terrain. Thus, the construction we place on the statute is harsh, but not utterly irrational, and therefore we are constrained to give the statutory exception the strict interpretation that Congress specifically intended.

EPA's attempt to reduce emissions limitations by so much of the stack height as needed to avoid plume impaction is reversed.

E. Requiring Demonstrations only for Stacks Above Formula Height

Under EPA's regulations, a source concerned about downwash caused by buildings must use a demonstration, as opposed to the simpler and cheaper formulas, only when it seeks credit for stack height in excess of that

provided by the formulas. Petitioners Sierra Club and NRDC assert that it was an abuse of discretion for EPA not to require demonstrations in two other cases: (1) whenever local or federal pollution authorities believed the formulas overestimated the height needed to prevent excessive concentrations of downwash-caused pollution, and (2) whenever a facility sought to raise an existing stack. The latter argument is based on the theory that stacks have historically been built to avoid downwash, so that there is a presumption that existing height is sufficient.

The first of these provisions was included in the 1979 proposed regulations, and the second—regarding existing stacks—was mentioned then as a specific case in which demonstrations might be required in particular instances. 44 Fed. Reg. at 2614; *see id.* at 2610. In 1980, in connection with a request for approval of credit for stack height increases at two existing power plants in Ohio, EPA decided to require demonstrations in all cases where a source sought to raise an existing stack height. 45 Fed. Reg. 42,279, 42,281-82 (1980). The agency explained that it had become increasingly concerned that current emissions levels were “resulting in significant regional air pollution problems, particularly acid rain.” *Id.* at 42,281.

Since publication of EPA's [1979] proposal, several sources have requested relaxations of SO₂ emission limitations in connection with stack height increases up to the height permitted by the GEP formula. EPA is concerned that allowing sources automatic credit for GEP formula height is improperly encouraging emission limit relaxations and SO₂ emission increases that aggravate the acid rain problem.

Id. At the time, EPA expected to incorporate the existing-stacks requirement into final stack-height regulations within a few months; a year later, when the final rules still had not been issued, EPA withdrew the requirement

pending consideration of the final rules. 46 Fed. Reg. 28,650 (1981).

Neither the 1981 repropoed regulations nor the final regulations under review contain either provision. EPA gave three reasons for the changes. First, it expressed great faith in the formula as an accurate measure of GEP height. In the 1981 repropoal, for example, EPA stated, "[W]e have established that the formula is the best determination of good engineering practice stack height based on nearby structures." 46 Fed. Reg. at 49,820; *see also* 1981 Responses, *supra* p. 29, at 1172 ("[A]fter reviewing the facts and information available, EPA believes that the formula provides a very good estimate of the stack height necessary to avoid excessive concentrations caused by downwash.").

Second, evidently as to the proposal that local authorities be allowed to require demonstrations for below-formula stack heights, EPA asserted that "inconsistencies could result." 46 Fed. Reg. at 49,820. This comment is cryptic, but we suspect that it must refer to inconsistencies between lax and zealous state environmental protection agencies, resulting in different requirements for similarly situated plants in different states.

Third, EPA cited a passage from the House committee report that it says indicates an intent to allow automatic credit up to formula height. 1981 Responses, *supra* p. 29, at 1173. The passage is from the report's discussion of the PSD provisions, in which the committee argues that those provisions will allow sufficient industrial development in all but the cleanest areas. HOUSE REPORT, *supra* p. 5, at 159-64. The report adds:

The committee bill even allows credit for stack height up to $2\frac{1}{2}$ times the basic height of the structure. This means that the average new coal-fired powerplant could have stacks as tall as 500 feet. (Older plants would be permitted to increase existing

stack heights up to 2½ times, or more in some cases under the bill.)

Id. at 162 (emphasis added).³

This last reason is easily neutralized. We agree that the House committee, and perhaps the Congress generally,

³ EPA also suggested that the 1980 decision to require demonstrations for all increases of existing stacks was intended as a response to a temporary problem, rather than a permanent solution. It explained the decision as follows: "In June 1980, faced with the requirement to approve or disapprove State Implementation Plan revisions for two Ohio power plants and still in the process of evaluating its policy on increase [sic] stack heights at existing facilities, EPA established as stringent a policy as possible to handle the issue." 1981 Responses, *supra* p. 29, at 1172.

We note that EPA has at times attributed a good deal more permanence to its 1980 decision than it now does. See 46 Fed. Reg. 28,650, 28,650 (1981) (withdrawing the policy) ("At that time, EPA expected to publish final stack height regulations incorporating the revised policy within a few months."); 46 Fed. Reg. 8581, 8582 (1981) (allowing comment on what it termed "the June 1980, final rulemaking"). But see *id.* ("EPA decided to modify its [1979] stack height proposal.") (emphasis added). Nevertheless, we realize that EPA issued the new policy without public comment and hurriedly, in order to comply with a commitment it had made to an appeals court in litigation over the agency's relaxation of a compliance date for the Ohio plants' emissions limitation. See *id.* at 8581. Thus different pressures were acting on the agency than when it promulgated the rules under review, so it might well have decided to err on the side of pollution control. We thus do not give any great weight in our current review to the fact that the 1980 decision was actually implemented as opposed to merely proposed. See generally *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 51 U.S.L.W. 4953, 4956 (U.S. June 24, 1983) ("an agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance"). In either case, EPA must at least explain its rejection of alternatives with reasons that are not contradicted by the record. We hold that it has not done so here.

probably had in mind a system of determining GEP stack height involving a generalized formula applicable to all sources except those seeking greater height. This appears to have been the general conception of the 1973 guidelines upon which Congress drew in drafting section 123, *see* 1973 Guidelines, *supra* p. 9, at 25,700 (2.5 Rule produces proper height in "fairly level terrain," but "[f]or more complex situations, . . . detailed engineering and meteorological investigations . . . should be conducted to determine the appropriate stack height"), and the House report's discussion of section 123 itself seems to make the same assumption, *see* HOUSE REPORT, *supra* p. 5, at 93 ("affirming the $2\frac{1}{2}$ times standard" but recognizing need to approve greater height when "aerodynamics of a source" require it).

Nevertheless, the statute itself is carefully designed to commit the determination of GEP height to "regulations promulgated by the Administrator" and speaks of the 2.5 Rule only as an upper limit. The conference committee's report even more clearly evinces an intent to leave the entire question of what method to use to determine GEP height to the discretion of the Administrator (subject to the requirement of demonstrations for any height above $2\frac{1}{2}$ times the height of the source). The conference committee explicitly stated that the Administrator's rule "should give 'credit' only for the height needed to avoid" the downwash problem, and suggested that that rule might differentiate among various kinds of sources if it was found that the height needed to avoid downwash so varied. The report concluded, "In other words, it was not our purpose to make a Congressional judgment about what stack height was needed to prevent downwash. We intend EPA to make this judgment . . ." 123 CONG. REC. 27,071 (1977). The report does not depart from the expectation that GEP height will usually be determined by a formula, but it does make clear that the formula used is up to the Administrator. Implicit in that discretion is the power to decide when the formula must be

used. Therefore, our review here is not of an interpretation of specific congressional intent, but rather of the agency's exercise of its discretion.

In evaluating whether EPA acted arbitrarily and capriciously in rejecting the two additional uses of demonstrations it initially proposed, we are left, then, with two explanations: an expressed belief in the accuracy of the formulas, and a fear of inconsistent enforcement. *See generally SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947) (agency action must be judged solely on the grounds invoked by the agency). Of the two explanations, the central reason must be EPA's confidence that the formulas provide "a very good estimate of the stack height necessary to avoid excessive concentrations caused by downwash," 1981 Responses, *supra* p. 29, at 1172, for if EPA had less confidence in the formulas, its view of how much inconsistency in state enforcement it could tolerate would surely change.

EPA's confidence in the formulas developed under the agency's apparent view that "excessive" meant an amount over the amount permitted by traditional engineering practice. We have found this to be an inadequate definition of the term, however, because Congress intended the agency to arrive at an independent conclusion regarding the stack height needed to prevent dangers to health and welfare resulting from downwash. *See supra* pp. 18-28. The words "excessive concentrations," from which we derived this requirement, govern not just demonstrations, but the Administrator's determination of "good engineering practice" generally. EPA therefore has not properly addressed the question of whether the formulas provide an accurate enough measure of the amount of stack height needed to avoid dangers to health and welfare. *See, e.g.,* Technical Support Doc., *supra* p. 20, at 1092 (degree to which $1+1.5$ formula height that would be dictated by "actual studies" depends on "one's interpretation of what is a significant influence" on ground concen-

trations). We must remand for the agency to consider how well the formulas protect against excessive concentrations and thus whether they are so accurate that demonstrations need not be used to justify raising stack heights in the two circumstances noted at the outset.

The Administrator's second justification for the present rule is also deficient, and we therefore caution him that should he again propose the disparate use of demonstrations, he must rely on something other than bald assertions about inconsistency of enforcement. We are not in a position to say whether a well-grounded fear of inconsistent state enforcement might conceivably justify not providing states with discretion to require demonstrations. We are certain, however, that it will not do for EPA merely to assert that "inconsistencies could result." Inconsistencies will always result from a regulatory scheme that relies on some measure of state enforcement, but the Act clearly envisions state implementation of generalized directives from EPA. *See, e.g.,* 42 U.S.C. § 7407(a) (Supp. V 1981) ("Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State . . ."); *see also Train v. NRDC*, 421 U.S. 60, 68-70 (1975) (discussing various states' approaches to implementing 1970 amendments to Act). At the least, EPA must specify why it is that such "inconsistency" is especially likely and harmful in this case, and that inconsistency must be weighed against the harms to flow from allowing widespread overestimation of stack heights to go uncorrected.

We note two other considerations that were clearly absent from EPA's initial determination of the amount to which demonstrations were to be used and that should be considered pursuant to our remand. First, there is virtually no evidence in the record supporting a conclusion that the formulas err only in one direction. Although a number of commentators suggested that the 2.5 Rule was regarded as yielding a minimum height necessary to avoid

downwash, *see* J.A. at 142-43 (comments of Rohm & Haas Co.); *id.* at 339 (comments of The Southern Co.), the data discussed by EPA scientists in their review of the literature suggest no such bias. Some of the data in fact suggest that the formulas overestimate the necessary stack height in some circumstances, while virtually no data indicates that they underestimate it. *See* Technical Support Doc., *supra* p. 20, at 1087 ("The extent of significant effects for rounded structures are likely not as great as those for sharp-edged structures, although there is very little information available."); *see also id.* at 1083 (downwash less at rounded-edged than at sharp-edged structures). The conclusion of EPA was that while there was a consensus around the 1+1.5 Rule, "actual studies could show the need for a much taller or lower stack depending on one's interpretation of what is a significant influence and on the effect of possible plume rise." *Id.* at 1092.

In this light, EPA cannot use the inaccuracy in the formulas to allow demonstrations to obtain credit for height above that provided by the formulas but not to limit credit below it. Rationality demands that if the inaccuracy is neutral, the corrective device must be neutral. The statute does not command otherwise. The provision for demonstrations for above-formula height does not require the Administrator to provide for such demonstrations if he believes they are unnecessary. That provision is part of the definition of good engineering practice height, 42 U.S.C. § 7423(c) (Supp. V 1981), the determination of which the statute leaves to the Administrator's discretion; *see id.* § 7423(a)(1). The House committee report leaves no doubt that the provision for demonstrations was a discretionary power, not a command. HOUSE REPORT, *supra* p. 5, at 93 ("In such instances, the Administrator has been given discretion to approve a State implementation plan which provides for stack height greater than the 2½ times standard.").

Second, EPA appears to have radically undervalued the presumption raised by the fact that an existing stack was built to less-than-formula height. The House committee recognized that "for many years, good air quality management has meant building a stack sufficiently tall to offset aerodynamic downwash created by structures in the immediate vicinity of the stack." HOUSE REPORT, *supra* p. 5, at 93. It seems fair and logical to assume that, particularly in the large plants governed by the Act, good air quality management has been followed and that dangers to health and welfare have not been tolerated. There is, moreover, some data to support this assumption, in that EPA, after its initial review of the several applications for increased stack height credits for existing stacks that were filed after the 1979 proposed regulations were issued, became convinced that some or all of the increases were unjustified. See 45 Fed. Reg. at 42,281.

In the absence of a strong showing that this presumption is mistaken, it may be rebutted in individual cases only by a reliable indicator of the height needed to prevent dangers to health or welfare caused by downwash. In the present final regulations, EPA has severely undermined its claim that the formulas are such an indicator by allowing demonstrations to increase stack height above the formula height without any special indication that that was a class of sources for which the formulas were not likely to yield the right result. Such inconsistency is the hallmark of arbitrary action.

We remand for the EPA to reconsider whether, in light of its new understanding of "excessive concentrations," demonstrations are necessary before stack heights may be raised, even if the final height will not exceed formula height.

F. Definition of "Stack" to Exclude Flares

A flare is a pipe used in the oil, natural gas, and chemical industries to vent combustible gases by burning them

at the top. In its 1979 proposed regulations, EPA explicitly included "flare[s]" in its definition of the statutory term "stack." 44 Fed. Reg. at 2613. The affected industries, two government agencies, and the American Society of Mechanical Engineers submitted comments arguing that flares are different from stacks because flare height is intended not to disperse pollutants but to allow for the safe combustion of dangerous gases produced during malfunctions in the industrial process. For this reason and because it believed flare emissions were difficult to measure, EPA excluded flares from the definition of "stacks" in its repropoed and final regulations. See 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(ff)) (" 'Stack' means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares."); *id.* at 5867; 46 Fed. Reg. at 49,817, 49,820. NRDC and Sierra Club argue that "flare stacks" are essentially no different from stacks in that they vent emissions into the atmosphere, and that their height can be used to evade emissions limitations. Therefore, they say, EPA's exclusion of flares from the definition of "stack" is contrary to law.

We find that EPA's definition of the term "stack" is a reasonable interpretation of a more or less technical term by the agency charged with implementation of the statute, and therefore affirm its exclusion of flares. See generally *Zenith Radio Corp. v. United States*, 437 U.S. 443, 450 (1978) (agency's definition need not be the only reasonable one, but must be " 'sufficiently reasonable' to be accepted by a reviewing court") (quoting *Train v. NRDC*, 421 U.S. 60, 75 (1975)); *Lead Industries Ass'n v. EPA*, 647 F.2d 1130, 1147 (D.C. Cir.) ("Where different interpretations of the statute are plausible, so long as EPA's construction of the statute is reasonable we may not substitute our own interpretation for the Agency's."), *cert. denied*, 449 U.S. 1042 (1980).

The record supports the conclusion that the engineering community defines "stacks" to exclude flares, and that

flare height is intended, under standard engineering practice, primarily to safeguard personnel and structures from the heat, flames, and unburned toxic gases that emanate during flaring, rather than to disperse the resulting concentrations of pollutants. *See, e.g.*, J.A. at 200 (comments of American Society of Mechanical Engineers); *id.* at 195-96 (comments of Monsanto Co.); *id.* at 203 (comments of Shell Oil Co.); *id.* at 353-54 (comments of Chevron U.S.A., Inc.). Some flares, if the release is small enough or remote enough, burn the gases at ground level. *Id.* at 353 (distinguishing "elevated flares" from "pit flares" and "ground flares"). Moreover, in part because of this primary purpose, flares are generally erected in isolated areas where, unless there is a nearby terrain obstacle, downwash is generally not a problem. Therefore, the height demanded by safety might not be justifiable if the sole aim were to prevent downwash. This seems unlikely to have been Congress's intent. Finally, there is no mention of flares in the legislative history.* We affirm EPA's definition of stack to exclude flares.

* Nevertheless, the pollutants produced by the combustion that takes place at the top of flares are regulated under the Clean Air Act just as the similar pollutants produced by the combustion that occurs at the base of the stacks are. *See, e.g.*, *id.* at 346-47 (comments of Michigan Dept. of Natural Resources) (describing PSD limitations placed on ground level sulfur dioxide impact of burning hydrogen sulfide derived from natural gas). Therefore, there is presumably an incentive for a source to raise its flare above the height dictated by safety in order to be able to increase the dispersion of the pollutants produced. *See id.* (30-meter limit on flare height would reduce permissible SO₂ emissions from over 8000 to about 2000 pounds per day). This is precisely the kind of dispersion usage that Congress sought to forbid.

While it may be impracticable to prevent this abuse via the "good engineering practice" formulation developed by Congress to deal with stack heights, excessive flare height still might be a "dispersion technique" for which credit is barred under section 123(a)(2), 42 U.S.C. § 7423(a)(2) (Supp. V 1981). We do not think it plain, as intervenor American

G. Definition of "Dispersion Techniques"

Section 123 bars giving emission credit for tall stacks and "other dispersion techniques." EPA's final definition of "dispersion technique" includes, in addition to the tall stacks and intermittent or supplemental control systems mentioned in the statute, the "addition of a fan or reheater to obtain a less stringent emission limitation." Expressly excluded from the definition are reheating the gas stream to its original temperature after the use of a pollution control system, certain agricultural and silvicultural uses of smoke, and "combining the exhaust gases from several stacks into one stack." 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(hh)).

Sierra Club and NRDC object that the definition does not include a number of dispersion techniques that should

Petroleum Institute asserts, that the term "any other dispersion technique" is directed at dispersion stratagems other than height. The statute commands that the degree of emission limitation required for "any air pollutant under an applicable implementation plan" shall not be affected by either *stack* height or any other dispersion technique. Since emissions of flares are regulated by the applicable implementation plans, and excess flare height is not excess "stack height," it may well be one of the "other dispersion techniques" regulated under section 123(a)(2).

We make no ruling on this question. While NRDC and Sierra Club have advanced the argument before this court, it was apparently not put before the agency, and we do not have its response. *See* J.A. at 911 (Sierra Club comments); *id.* at 1217 (petition for rehearing); *cf.* *United States v. L.A. Tucker Truck Lines*, 344 U.S. 33, 37 (1952) ("Simple fairness to those who are engaged in the tasks of administration, and to litigants, requires as a general rule that courts should not topple over administrative decisions unless the administrative body not only has erred but has erred against objection made at the time appropriate under its practice."). Moreover, there is no suggestion that flare height above that required for safety has ever been used as a dispersion technique or that the problem is anything more than a theoretical one. *See generally infra* p. 56.

be barred: (1) the use of fans and reheaters to avoid a more stringent emission limitation, rather than merely to gain a less stringent one, (2) the addition of nozzles and other devices to increase plume rise, (3) combining several stacks into one for the purpose of increasing plume rise, and (4) other such techniques polluters may devise in the future.

EPA's original proposal defined "dispersion technique" far more broadly than its final rule, so that it included "the manipulation of source process parameters, exhaust gas parameters, stack parameters other than height, or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise." 44 Fed. Reg. at 2613-14. It narrowed the definition in response to comments that persuaded the agency that "many changes in stack dimensions and exhaust gas characteristics are made to improve the efficiency of the facility rather than to enhance dispersion." Response to Petitions for Reconsideration of the Stack Height Rules (May 1982), J.A. at 1225 [hereinafter cited as Reconsideration Decision]. In its repropose regulations, the agency added an explicit test of a purpose to increase plume rise and provided that combining stacks would not be deemed a dispersion technique unless there was manipulation of flow rates or temperature for the purpose of enhancing plume rise. 46 Fed. Reg. at 49,817; *see id.* at 49,816 (preamble says "for the sole purpose of enhancing plume rise"). It commented that "[t]he significance of other dispersion techniques is not well documented and the Agency intends to give further consideration to the need for restrictions of this type prior to promulgation." *Id.* at 49,816.

In its final regulations, as noted, EPA abandoned the generic definition of "dispersion techniques" and limited the term to specific equipment—fans and reheaters—installed for the purpose of obtaining a less stringent limitation. It eliminated any test of intent in the permission to combine several stacks into one. The agency explained

that the change would "prevent only the installation of equipment clearly intended to enhance [sic] plume rise." 47 Fed. Reg. at 5867. It declined to prohibit other techniques that were accompanied by such an intent because such a test "would involve the Agency in subjective judgments that could be difficult to support." Reconsideration Decision, *supra* p. 51, at 1225; *accord id.* at 1226 ("Such subjective judgments would be difficult to make and to enforce."). "A test based on the installation of specific equipment accompanied by a request for a relaxed emission limit was deemed to be more workable." *Id.* at 1225. EPA did not dispute that all the techniques cited by petitioners could be used in order to increase plume rise and disperse pollutants so as to lower emissions limitations.

While somewhat less than ideally clear, EPA's explanations may be read to suggest that it weighed two factors in deciding which of these techniques it would even attempt to regulate: the likelihood that they would be used as dispersion techniques, rather than as bona fide engineering improvements (i.e., the "significance" of these techniques), and the burden, both on enforcement agencies and on industry, of attempting to differentiate legitimate from illegitimate uses. EPA did not argue that use of these techniques in order to increase plume rise would not be a "dispersion technique" within the meaning of the statute. Rather, it became convinced that few would use such techniques and that the effort of catching those who did would be great. In so doing, however, we think EPA has created an exemption from the statute based upon its perceptions of the costs and benefits of enforcing the law. We find no source for such a power. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 357 (D.C. Cir. 1979) ("[T]here exists no general administrative power to create exemptions to statutory requirements based upon the agency's perceptions of costs and benefits.").

Although EPA has not argued to the contrary, we first ascertain for ourselves that the techniques cited by peti-

tioners are within the intended meaning of the statutory term "dispersion techniques." The language of the Act is categorical—the amount of emission limitation "shall not be affected in any manner by . . . any . . . dispersion technique"—and a broad construction is appropriate to achieve the remedial purpose intended. There is no helpful legislative history to shed light on the meaning of the term. We think the words themselves, however, sweep broadly enough to encompass at least the meaning urged by petitioners: the use of devices, alterations to the stack, or other techniques when they are significantly motivated by an intent to gain emissions credit for greater dispersion. Were such techniques not included, they could be used to enhance plume rise to such an extent as to make the limitations on stack height illusory.

Since the regulations do not regulate all the techniques contained in this definition, the regulations effectively create an exemption not indicated in the statute itself. Such categorical exemptions are generally not favored, *Alabama Power*, 636 F.2d at 358, but there are two situations in which they are allowed: cases of administrative necessity and *de minimis* situations, *id.* at 358-61. EPA has vaguely invoked both of these justifications. However, both must be shown with greater rigor than EPA has brought to bear here. *See id.* at 359 (agency bears "a heavy burden to demonstrate the existence of an impossibility"); *id.* at 360 ("Determination of when matters are truly *de minimis* naturally will turn on the assessment of particular circumstances, and the agency will bear the burden of making the required showing.").

Apparently the only evidence concerning whether prohibiting these techniques would yield a gain of trivial or no value (in the sense of furthering the goals of the statute) consists of EPA's finding that "many changes in stack dimensions and exhaust gas characteristics are made to improve the efficiency of the facility rather than to enhance dispersion." Reconsideration Decision, *supra*

p. 51, at 1225, and like comments submitted by industry, *e.g.*, J.A. at 1029 (comments of Utility Air Regulatory Group) ("Recombination of exhaust streams is typically done for sound economic and engineering reasons, totally apart from any environmental plume rise that might occur."); *id.* at 101-02 (comments of Stearns-Roger Inc.) (listing engineering reasons for manipulating exhaust gas velocity, temperature, etc.). Even these few, unspecific, unquantified estimates do not attempt to establish that use of these techniques in order to disperse pollutants more widely would only trivially undermine the Act's command that emissions limitations be met by direct controls. Neither the comments nor EPA's responses suggest, for example, that there is in fact no or little incentive to implement these techniques because the potential reduction in emissions limitations would not be worth the cost. Clearly, more is required to show that a technical violation is truly *de minimis*.

There is more evidence to support EPA's claim of administrative necessity, and that is where it has placed its primary reliance. One local agency asserted that enforcement of the original broad definition of dispersion techniques would require scrutiny of "every possible aspect of source construction, process flows, plant configuration and siting," which, it said, was beyond its capabilities. *Id.* at 314 (comments of Allegheny Co. Bureau of Air Pollution Control). Several states expressed less vehement concerns about their ability to draw the lines required by the various proposals. *See id.* at 965 (comments of Conn. Dept. of Environmental Protection) (inquiring how a state could establish with any certainty that enhanced plume rise "was an intentional or an incidental result" of changes to stack flow characteristics); *id.* at 236 (comments of S.C. Dept. of Health & Environmental Control) (seeking list of stack parameters for various source categories to be used in comparing changes proposed by sources). EPA found that discerning the subjective motivation for stack and flow parameter changes, as required

by its 1981 reproposal, would be "difficult." Reconsideration Decision, *supra* p. 51, at 1225, 1226.

We do not see anything in the language, history, or purpose of section 123 that "authorizes approaches that deviate from the legislative mandate in response to concerns about feasibility," *Alabama Power*, 636 F.2d at 360. The House committee report sternly cautions the Administrator to construe narrowly exceptions and permitted variances from the bar on reliance on dispersion techniques. See HOUSE REPORT, *supra* p. 5, at 93-94. Other legislative history, e.g., 123 CONG. REC. 18,027 (1977) (remarks of Sen. Muskie) (quoted *supra* p. 7), as well as the detailed cabining of the Administrator's discretion in the statute itself, suggest some distrust of the agency's prior flexibility towards industry.

In the absence of an authorization to take feasibility into account in administering a particular statute, the agency may avoid implementing a statute only by showing that attainment of the statutory objectives is impossible. See *Alabama Power*, 636 F.2d at 359 ("the agency [bears] a heavy burden to demonstrate the existence of an impossibility" (footnote omitted)); *NRDC v. Train*, 510 F.2d 692, 713 (D.C. Cir. 1975) ("The sound discretion of an equity court does not embrace enforcement through contempt of a party's duty to comply with an order that calls him 'to do an impossibility.'" (footnote omitted)). Especially in light of the fact that the administrative difficulties the agency cites are mere predictions, rather than conclusions drawn from good faith efforts at enforcement, see *Alabama Power*, 636 F.2d at 359 ("The agency's burden of justification in such a case is especially heavy."), the showing here falls far short.

Moreover, even if separately determining the intent of all manipulations of stack or plume parameters that are likely to be used as dispersion techniques is in fact impossible, there nevertheless may be less taxing ways to enforce the law. EPA could, for example, develop classes

of plant improvements that are clearly legitimate or clearly illegitimate. *See id.* at 358 ("Courts frequently uphold streamlined agency approaches or procedures where the conventional course, typically case-by-case determinations, would, as a practical matter, prevent the agency from carrying out the mission assigned to it by Congress."); *see also* J.A. at 236 (comments of S.C. Dept. of Health & Environmental Control) (suggesting "list of stack parameters for various source categories that can be used in the comparative analysis"). It might be able to quantify the amount of plume rise that could be presumed to have an engineering, rather than a dispersion, rationale, in the manner that one commenter suggested. *Id.* at 978-79 (comments of ASARCO Inc.) (proposing to permit exit velocities of 1.5 times the 95th percentile of local windspeeds raised to the fifth power). EPA might also be able to select large classes of improvements that may be exempted from regulation because their use as dispersion techniques is no more than a theoretical possibility or their impact on the goals of the Act is otherwise trivial. By thus focusing enforcement resources narrowly on the plant improvements likely to be undertaken for the purposes of increasing dispersion, EPA should be able to reduce substantially the number of cases in which a full-scale examination of the motivation for the change will be required.⁷

We see no evidence that EPA has adequately explored these regulatory alternatives. Rather, when it appeared that the definition of "dispersion techniques" would depend on a question of intent, the agency simply caved in and allowed full credit for any plume enhancement tech-

⁷ We do not, of course, specifically approve the use of any of these techniques for easing the regulatory burden, but offer all of them merely as suggestions of ways in which the claimed impossibility of inquiring into intent in all cases may be mitigated. Others will no doubt occur to the agency as it gains experience in the field.

nique not involving fans or heaters. We overturn the narrow definition of "dispersion techniques" and direct EPA to develop rules disallowing credit for all "dispersion techniques" as that term is used in section 123, unless the agency can justify its failure under the standards discussed in this opinion and in the opinion of this court in *Alabama Power*, 636 F.2d at 357-61.

H. Definition of "Stack Height in Existence"

Section 123(a) contains a grandfather clause intended to exempt pre-1971 stacks from the limitation on emission credit contained in the "good engineering practice" provision. Other dispersion techniques implemented before the enactment of the Clean Air Amendments of 1970 are also exempted from emission credit limits. The clause reads, "The preceding sentence shall not apply with respect to stack heights in existence before December 31, 1970, or dispersion techniques implemented before such date." 42 U.S.C. § 7423(a) (Supp. V 1981).

EPA's final regulations define a stack "in existence" to mean that the owner or operator of the source had, by December 31, 1970,

(1) begun, or caused to begin, a continuous program of physical on-site construction of the stack or (2) entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time.

47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(gg)). Sierra Club and NRDC object that this definition is contrary to the plain English meaning of the statutory language, as well as to the legislative history. They urge a definition like that contained in the 1979 proposed regulations: " 'In existence' . . . means that stack height (of a stack) which has been constructed." 44 Fed. Reg. at 2613. EPA adverts to the legislative history

and clear purpose of the provision to grandfather sources that before the 1970 amendments made good faith commitments to use certain stack heights. In 1981 Responses, *supra* p. 29, at 1164. An EPA study of the impact of the stack height regulations stated that the change in the definition of "in existence" would exempt stacks at four to eight power plants from the requirements of section 123. Impact Assessment Report for the Final Stack Heights Regulations (Dec. 1981), J.A. at 1054, 1059 [hereinafter cited as Impact Assessment Report].

The weightiest evidence in favor of the narrower 1979 definition is the fact that the 1977 amendments elsewhere explicitly refer to facilities as to which construction contracts had been awarded as of a certain date, suggesting that "in existence" means some stage beyond the signing of the contract. Section 123 itself in effect exempts the stacks at a single power plant in Tennessee, known as the Kingston Station, *see* 123 CONG. REC. 18,480-81 (1977) (remarks of Sen. Baker), in part by referring to stacks "for which a construction contract was awarded before February 8, 1974." 42 U.S.C. § 7423(a) (Supp. V 1981); *see also id.* §§ 7475(a), 7479(2) (PSD program applies to facilities "on which construction is commenced after August 7, 1977"; "commenced" defined to mean that the operator has obtained all necessary permits and has begun continuous program of construction or has entered into binding agreements to do so, which cannot be modified without substantial loss). The distinction between these provisions and the grandfather clause under review was the primary basis for EPA's original proposal that "in existence" be defined as physically constructed. *See* 44 Fed. Reg. at 2611 ("Since Congress in 1977 defined 'commenced construction' to include the acquisition of permits, the beginning of actual construction or the entering into binding contracts, EPA believes the term 'in existence' must mean something more.").

NRDC and Sierra Club also cite language in the House committee report that "sources which raised their stacks

or constructed tall stacks after the date of enactment should [not] be eligible for any credit," HOUSE REPORT, *supra* p. 5, at 93, which they say indicates an intent to include stacks under construction in section 123.

Nevertheless, we find EPA's final definition of the term to be a reasonable one and affirm it. *See supra* pp. 48-49. EPA's interpretation is necessary to make the clause equitable, which was undoubtedly Congress's purpose. Thus, the House committee report explained that the committee "believe[d] that sources which in good faith raised their stacks before the 1970 act limited dispersion methods should not be penalized." HOUSE REPORT, *supra* p. 5, at 93. Clearly, a source that irrevocably and in good faith contracted for a tall stack prior to the 1970 act may be penalized by application of the provision in the same way that one that had completed construction of the stack would be. Our emphasis on the words "in good faith" and "penalized" in the language from the House report is not contradicted by the passage cited by petitioners. Petitioners emphasize in their passage the words "raised their stacks or constructed tall stacks after the date of enactment," which they say means that any stack that was not completed prior to the date of enactment should be included in the statute. The two passages appear close together and were evidently meant to refer to the same distinction between stacks that were to be included in section 123 and those that were not. Yet one uses both the words "raised" and "constructed" and the other uses just "raised," which suggests that the words were not written with the special emphasis petitioners ascribe to them. In any case, there is no reason why the terms "raised" and "constructed" should not be read to mean the entire process of raising or constructing stack height, from beginning to end.

Also, a similar grandfather clause in EPA's 1976 stack height guidelines, which we have said were, along with their 1973 predecessors, the source for much of the

detail in section 123, drew the line at commencement of construction. 1976 Guideline, *supra* p. 6, at 7451 ("a State may not take into account the dispersive effects of an increased stack height for which construction commenced after January 31, 1972"). Moreover, the 1976 guidelines set out this grandfather clause in a section headed, "*Sources in Existence Prior to January 31, 1972*," which might have been the origin of the statutory language. Under the guidelines, a source that was under construction in 1972 would be exempt from the stack height limits, and thus "in existence," if construction of its stack height had commenced. Thus, the term "in existence" in the guidelines could in some instances mean "under construction," the definition urged by EPA.

Further evidence that Congress did not mean the term "in existence" to exclude stack heights contracted for or under construction is that the use of that term in another section of the 1977 amendments must be so read to achieve Congress's purpose. A section of the PSD provisions requires certain sources "in existence on August 7, 1977," to install the best available retrofit technology to reduce visibility impairment produced by the source's emissions. 42 U.S.C. § 7491(b)(2)(A) (Supp. V 1981). The general permit provisions for new facilities require more stringent protection of visibility for all facilities "on which construction is commenced after August 7, 1977." *Id.* § 7475(a); *see also id.* § 7479(2)(A) (definition of "commenced" to include "entered into binding agreements"). Thus, in order to provide some regulation of visibility for sources under construction or contracted for on August 7, 1977, "in existence" must be read to mean "on which construction has commenced." EPA urges a parallel construction here. *See Alabama Power Co. v. Costle*, 636 F.2d 323, 396 (D.C. Cir. 1979) ("[W]e must assume that the meaning of a particular term is to be consistent throughout the Act.").

The legislative history of the "Kingston exemption" diminishes any inferences that may be drawn from the

fact that it uses the phrase "for which a construction contract was awarded" to mean essentially what EPA urges as the definition of "in existence." This provision was added to the bill on the floor of the Senate at the instance of Senator Howard Baker in order to exempt a particular plant in his home state of Tennessee. See 123 CONG. REC. 18,480-81 (1977). It was thus drafted by a different author, added late in the process when it was too late to check it for consistency with other sections of the Act, and debated without the benefit of a committee report and with attention focused only on its purpose as opposed to its details. Senator Baker may have seen some ambiguity in the term "in existence" and used more specific language to ensure that his purpose was achieved. We do not think the possibility that one senator thought the statute's grandfather clause was ambiguous rebuts the other persuasive evidence of the reasonableness of EPA's interpretation of congressional intent.

We affirm EPA's definition of "in existence."

Sierra Club and NRDC argue that the grandfather clause is subject to abuse unless EPA bars sources from receiving emission credit for emissions from new facilities tied into their grandfathered tall stacks. Such a provision was included in the preamble to the 1979 proposed regulations, 44 Fed. Reg. at 2612 ("credit only for emissions from facilities that before December 31, 1970 were committed to tie into a stack in existence as defined in this Regulation") but was deleted without explanation in the 1982 final regulations. EPA admits that it neglected to respond to Sierra Club's comment that the provision be included in the final regulations themselves, but argues that the failure was at most harmless error. Since the failure to respond leaves us "to guess as to the agency's findings or reasons," *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 851 (D.C. Cir. 1970), *cert. denied*, 403 U.S. 928 (1971), and we may not uphold

agency action on the basis of arguments advanced not by the agency itself, but only by counsel during litigation, *FPC v. Texaco Inc.*, 417 U.S. 380, 397 (1974), we remand this issue to allow the agency to explain why it refused to prohibit tying new sources into pre-1971 stack heights.

I. *Prospective Application of 1+1.5 Rule*

As noted, EPA's regulations provide two formulas for the determination of GEP height: the 2.5 Rule for use by stacks in existence (as defined in the regulations) on January 12, 1979, and the 1+1.5 Rule for all other stacks. 47 Fed. Reg. at 5868 (to be codified at 40 C.F.R. § 51.1(ii)(2)). The dividing date is the day on which the agency published its 1979 proposed regulations, in which it first proposed the 1+1.5 Rule. Retroactive application of the new formula was eschewed because it was thought to be unfair to sources that "in good faith had constructed stacks in accordance with" the previously accepted 2.5 Rule. *Id.* at 5866.

Sierra Club and NRDC argue that the two-formula approach is contrary to the Act, which allows credit only for good engineering practice height, as determined by the Administrator. Once EPA determines that the relevant amount of downwash can be prevented by a certain height, it must give credit only for that height. Allowing application of the 2.5 Rule, the argument goes, gives credit for stack height in excess of GEP height. In addition, petitioners cite the conference committee's report, which states the committee's intention that "if it should be determined that downwash, eddies, and wakes can be prevented by stacks of less than $2\frac{1}{2}$ times facility height, the Administrator's rule should give 'credit' only for the height needed to avoid these conditions." 123 CONG. REG. 27,071 (1977).

We hold that the statute does not prevent EPA from allowing its past rule to be applied to stacks built be-

fore its new formula was proposed, but that the agency has erred in allowing sources that did not rely on the old formula to use it. Congress was moved to enact section 123 by evidence that during the 1970's many sources had built tall stacks far above the heights dictated by sound engineering practice. To allow such sources to claim credit for heights up to the 2.5 Rule would be a windfall for them, unjustifiable under either the statute or the equitable considerations that govern retroactivity.

Although the conference committee directed that the Administrator's rule give credit only for whatever height he determined was needed to prevent downwash, it did not speak to whether that rule should be applied retroactively or only prospectively. The courts have addressed the limits of an agency's implied power to apply a rule retroactively and have discerned a set of considerations that limit that power. We think that these considerations are also suggestive of the outlines of an agency's duty to apply a rule retroactively, although the weight of each will be somewhat different. Among the considerations that enter into the consideration of retroactivity are

- [1] whether the new rule represents an abrupt departure from well established practice or merely attempts to fill a void in an unsettled area of law,
- [2] the extent to which the party against whom the new rule is applied relied on the former rule, [3] the degree of the burden which a retroactive order imposes on a party, and [4] the statutory interest in applying a new rule despite the reliance of a party on the old standard.

Retail, Wholesale & Department Store Union v. NLRB, 466 F.2d 380, 390 (D.C. Cir. 1972) (retroactive application of rule developed in adjudications); see *Tennessee Gas Pipeline Co. v. FERC*, 606 F.2d 1094, 1116 n.77 (D.C. Cir. 1979) (same: "The relevant factors [concerning the limitations on permissible retroactivity] include

the degree of retroactivity, the need for administrative flexibility, and the hardship on the affected parties."), *cert. denied*, 445 U.S. 920 (1980), 447 U.S. 922 (1980).

In this case, the new rule is a departure from both a legal rule proposed in 1973 and in effect since 1976, and an industry practice of much longer standing. See Technical Support Doc., *supra* p. 20, at 1080 ("[The 2.5 Rule] arose during the early part of this century as a practical formula."); cf. *NLRB v. Majestic Weaving Co.*, 355 F.2d 854, 860 (2d Cir. 1966) (Friendly, J.) (Every case of first impression has a retroactive effect, "[b]ut the problem of retroactive application has a somewhat different aspect in cases not of first but of second impression, where an agency alters an established rule defining permissible conduct which has been generally recognized and relied on throughout the industry that it regulates."). Moreover, for operators with tall, thin buildings who have met air quality standards with a stack height two-and-one-half times the height of the building, the burden of retroactivity may include expensive retrofitting of control equipment and renegotiation of contracts in order to purchase coal with lower sulfur content. See J.A. at 926 (comments of Utility Air Regulatory Group).

The statutory interest in applying the new rule despite individual reliance is, of course, the crucial consideration in the context of requiring an agency to apply one of its rules retroactively. Here, any retroactivity detracts from the intention to place maximum reliance on direct emissions reductions rather than dispersion. But the objective, while paramount, did not completely eclipse others, for Congress itself allowed full credit for stack height in existence before 1970. Also, the determination of GEP stack height was explicitly left to the discretion of the Administrator, and the statute here specifically envisioned the old rule that EPA seeks to retain in force for some sources. Thus, the application of that rule would not

maintain a situation that Congress sought to end. Finally, we do not think the conference committee report was intended to allow only a single review of the state of engineering knowledge in order to determine what stack height is needed to prevent downwash, but rather that it would tolerate refinement of the approach as knowledge expanded. Likewise, we have noted that the technical basis for establishing certain rules may be available only after some experience in regulating the field is gained. *See supra* pp. 55-56 & n.7. Yet, a rule that required that every refinement of the GEP formulas or of demonstration techniques be applied retroactively would place the natural reluctance to act unfairly or inequitably as an obstacle to implementation of those developments. We do not think the statute requires such a result, particularly since retroactive application may frequently be quite burdensome for particular sources.

Nevertheless, one of the factors to be considered in determining retroactivity is the extent of reliance on the old rule. In this case, there is persuasive evidence that many sources built stacks in the relevant period without in fact relying on the 2.5 Rule, but instead built their stacks tall in order to obtain credit for dispersion. *See e.g.*, HOUSE REPORT, *supra* p. 5, at 81-82; 123 CONG. REC. 16,203 (1977) (remarks of Rep. Waxman during introduction of amendments) ("[T]he utility industry in particular has tried to gain acceptance for operating methods which only disperse harmful emissions over a large area, which are unreliable in practice and which mask each source's contribution to a region's air quality problems. . . . I feel that the committee has finally, after a half-dozen years, laid this argument to rest."); *Alabama Power Co. v. Costle*, 636 F.2d 323, 388 (D.C. Cir. 1979) ("A good many industrial facilities . . . [built] taller-than-necessary stacks in order to achieve greater dispersion of their emissions and thus comply with national ambient standards."). *Compare* Impact Assess-

ment Report, *supra* p. 58, at 1059 (eight plants built tall stacks before 1971) with Identifying and Assessing the Technical Bases for the Stack Height Regulatory Analysis (Dec. 1979) (EPA consultant's report), J.A. at 713 (171 stacks over 500 feet tall built since 1970). Putting an end to this evasion of the act was, in fact, the primary motivation for section 123. Thus although we would be concerned by the burden caused by retroactive application of the new rule against sources that actually relied on the old rule, such concerns are rather attenuated when there was no reliance whatsoever. In these circumstances, both judicial doctrine and congressional purpose command that the agency limit the use of the 2.5 Rule to those sources that actually relied on it.

We remand this provision to the agency to allow it to reformulate its rule to take actual reliance into account.

J. *Timetable for State Implementation*

Section 406(d)(2) of the 1977 amendments provides:

Except as otherwise expressly provided, each State required to revise its applicable implementation plan by reason of any amendment made by this Act shall adopt and submit to [EPA] such plan revision before the later of the date—

(A) one year after the date of enactment of this Act [Aug. 7, 1977], or

(B) nine months after the date of promulgation by [EPA] of any regulations under an amendment made by this Act which are necessary for the approval of such plan revision.

42 U.S.C. § 7401 note (Supp. V 1981). In the preamble to its final regulations, EPA purported to carry out this section via a two-stage implementation process. First, the states would be allowed nine months from the promulgation of the regulations to draft and submit rules limiting stack height credit. Then, presumably after a four-month period of review by EPA, *see id.* § 7410(a)(2) ("The Administrator shall, within four months after the

date required for submission of a [state implementation plan], approve or disapprove such plan or each portion thereof."), the states would have another nine months to revise their emission limitations to make them consistent with the state rules. 47 Fed. Reg. at 5865-66; Reconsideration Decision, *supra* p. 51, at 1227.

EPA's two-stage process, allowing a total of twenty-two months between promulgation of EPA's regulations and submission of revised emission limitations (followed, presumably, by another four months for EPA approval), is plainly contrary to section 406(d)(2). The "applicable implementation plan" referred to in that section is the state implementation plan required under section 110, 42 U.S.C. § 7410 (Supp. V 1981); the latter section explicitly requires that state implementation plans contain "emission limitations, schedules, and timetables for compliance with such limitations," *id.*; *see also id.* § 7471 (requiring plan to contain "emission limitations and such other measures as may be necessary . . . to prevent significant deterioration of air quality"); *id.* § 7502(b)(8) (same as to nonattainment provisions of Act). There is thus no place in the statutory timetable for submission of separate state regulations governing stack heights.

Moreover, we see no place for such state regulations in EPA's own final regulations. The regulations are detailed and precise and do not mention alternative means of compliance from which the states may pick and choose. Even if states had to adopt stack height regulations, they would probably merely mimic EPA's version. In any case, that process could not extend the time allowed by statute for submission of implementation plans containing specific emissions limitations.

In its brief before this court, EPA's lawyers assert that the agency "made a specific finding that it would be impossible for the states to completely revise their plans within nine months." Brief of Respondents at 68 (citing

J.A. at 1233). We find no such specific finding on the page cited by the brief nor in the other materials in the record regarding the timetable for state implementation. This conclusory statement certainly does not meet the "heavy burden to demonstrate the existence of an impossibility" that is required by the law, *Alabama Power Co. v. Costle*, 636 F.2d 323, 359 (D.C. Cir. 1979).

EPA's two-stage implementation plan is reversed.

K. *Timetable on Remand*

Congress directed EPA to promulgate regulations to carry out section 123 of the Act no later than six months after it was passed in August 1977. EPA's proposed regulations were not issued until January 1979, seventeen months after enactment. Its final regulations were promulgated four-and-one-half years after the statute was passed. We have now passed the sixth anniversary of that date. During this time, polluters have not been obliged to reduce their emissions rather than rely on dispersion, because the statute must be implemented by the states, which have awaited EPA's regulations.

Petitioners request that we direct EPA to promulgate "without delay" regulations free of the violations we have found. In light of the regulatory history set out above and the now urgent need to implement Congress's commands, we think it best to quantify that obligation. We note that many, though not all, of the flaws we have found in EPA's regulations were reversals of positions taken in the 1979 proposed regulations, so that we have some confidence that solutions are not beyond the realm of imagination. Others will require the expenditure of considerable effort to correct, but Congress thought EPA could solve all problems in six months and the agency has had six years. We think it appropriate to direct EPA to promulgate new final regulations that remedy the defects this court has found within six months from the issuance of our mandate, the period originally specified by Congress.

III

The following provisions of EPA's stack height regulations are affirmed: (1) the definition of "nearby" as applied in the GEP formulas; (2) the failure to consider plume rise in deriving the GEP formulas; (3) the exclusion of flares from the definition of "stack"; and (4) the definition of "in existence."

The following provisions are reversed as beyond the agency's statutory authority: (1) the inclusion of plume impaction in the calculation of creditable stack height; and (2) the two-step, twenty-two-month timetable for state implementation of the regulations.

We remand the following provisions to the EPA for further action not inconsistent with this opinion: (1) the failure to apply a "nearby" limitation to GEP demonstrations; (2) the definition of "excessive concentrations"; (3) the failure to require demonstrations before stacks are raised up to formula height; (4) the definition of "dispersion technique"; (5) the refusal to prohibit new facilities from tying into pre-1971 stack heights; and (6) the grandfather clause for application of the 2.5 Rule.

We direct EPA to promulgate new final stack height regulations as to these issues within six months from the date of issuance of this court's mandate.

It is so ordered.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

September Term, 1983

No. 82-1384

SIERRA CLUB AND NATURAL RESOURCES
DEFENSE COUNCIL, INC.

Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY

Respondent

ALABAMA POWER COMPANY, et al.

KENNECOTT MINERALS Co.,

TENNESSEE VALLEY AUTHORITY

STATES OF NEW YORK, et al.

STATE OF VERMONT

AMERICAN PETROLEUM INSTITUTE, et al.

Intervenors

And Consolidated Case Nos. 82-1412,
82-1845 & 82-1889

[Filed Dec. 13, 1983]

Before: EDWARDS, *Circuit Judge*; MCGOWAN and MAC-
KINNON, *Senior Circuit Judges*

ORDER

On consideration of the Petition for Rehearing of In-
tervenor Alabama Power Co., et al, filed November 29,
1983, it is

71a

ORDERED by the Court that the aforesaid Petition is denied.

Per Curiam

For The Court:

GEORGE A. FISHER
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Chief Deputy Clerk

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

September Term, 1983

No. 82-1384

SIERRA CLUB AND NATURAL RESOURCES
DEFENSE COUNCIL, INC.,
Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

ALABAMA POWER COMPANY, et al.
KENNECOTT MINERALS CO.,
TENNESSEE VALLEY AUTHORITY
STATES OF NEW YORK, et al.
STATE OF VERMONT
AMERICAN PETROLEUM INSTITUTE, et al.
Intervenors

And Consolidated Case Nos. 82-1414,
82-1845 & 82-1889

[Filed Dec. 13, 1983]

Before: ROBINSON, *Chief Judge*, WRIGHT, TAMM,
WILKEY, WALD, MIKVA, EDWARDS, GINSBURG,
BORK, SCALIA and STARR, *Circuit Judges*;
MCGOWAN and MACKINNON, *Senior Circuit
Judges*

ORDER

The suggestion for rehearing *en banc* of Intervenor
Alabama Power Co., et al, filed November 29, 1983, has

been circulated to the full Court and no member has requested the taking of a vote thereon. On consideration to the foregoing, it is

ORDERED by the Court *en banc* that the aforesaid suggestion is denied.

Per Curiam

For The Court:

GEORGE A. FISHER
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Chief Deputy Clerk

Circuit Judges Wright, Wilkey and Bork did not participate in this Order.

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

September Term, 1983

No. 82-1384

SIERRA CLUB AND NATURAL RESOURCES
DEFENSE COUNCIL, INC.,
Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

ALABAMA POWER COMPANY, et al.
KENNECOTT MINERALS CO. &
TENNESSEE VALLEY AUTHORITY
STATES OF NEW YORK, et al.
STATE OF VERMONT
AMERICAN PETROLEUM INSTITUTE, et al.
Intervenors

And Consolidated Case Nos. 82-1412,
82-1845 & 82-1889

[Filed Dec. 13, 1983]

Before: EDWARDS, *Circuit Judge*; MCGOWAN and MAC-
KINNON, *Senior Circuit Judges*

ORDER

On consideration of the Motion of Alabama Power Co.,
et al. for Clarification of the Court's Decision on "Nearby
Terrain Obstacles", filed November 25, 1983, it is

ORDERED by the Court that the aforesaid motion for clarification is denied.

Per Curiam

For The Court:

GEORGE A. FISHER
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Chief Deputy Clerk

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

September Term, 1983

No. 82-1384

SIERRA CLUB AND NATURAL RESOURCES
DEFENSE COUNCIL, INC.,
Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY,
Respondent

ALABAMA POWER COMPANY, et al.
KENNECOTT MINERALS CO.,
TENNESSEE VALLEY AUTHORITY
STATES OF NEW YORK, et al.,
STATE OF VERMONT
AMERICAN PETROLEUM INSTITUTE, et al.,
Intervenors

And Consolidated Case Nos. 82-1412,
82-1845 & 82-1889

[Filed Jan. 6, 1984]

Before: EDWARDS, *Circuit Judge*, MCGOWAN and MAC-
KINNON, *Senior Circuit Judges*

ORDER

On consideration of the motion of intervenor for stay
of issuance of mandate, it is

ORDERED by the Court that the Clerk is directed to delay issuance of this Court's mandate through January 19, 1984.

Per Curiam

For The Court:

GEORGE A. FISHER,
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Chief Deputy Clerk

UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

September Term, 1983

No. 82-1384

SIERRA CLUB AND NATURAL RESOURCES
DEFENSE COUNCIL, INC.

Petitioners

v.

ENVIRONMENTAL PROTECTION AGENCY

Respondent

ALABAMA POWER COMPANY, et al.,

Intervenors

And Consolidated Cases No. 82-1412,
82-1845 & 82-1889

[Filed Feb. 9, 1984]

Before: EDWARDS, *Circuit Judge*, MCGOWAN and MAC-
KINNON, *Senior Circuit Judges*

ORDER

On consideration of the motion of Intervenors, Alabama Power Company et al., to further stay mandate and of the opposition thereto, it is

ORDERED by the Court that the motion is granted and the Clerk is directed to not issue the mandate of this Court through February 21, 1984.

Per Curiam

For The Court:

GEORGE A. FISHER
Clerk

By: /s/ Robert A. Bonner
ROBERT A. BONNER
Chief Deputy Clerk

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 51

[AD-FRL 2010-1; Docket No. A-79-01]

Stack Height Regulations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rulemaking.

SUMMARY: Section 123 of the Clean Air Act requires EPA to promulgate regulations to assure that the degree of emission limitation required for the control of any air pollutant under an applicable State Implementation Plan (SIP) is not affected by that portion of any stack height which exceeds good engineering practice (GEP) or by any other dispersion technique. Regulations to implement Section 123 were proposed on January 12, 1979 at 44 FR 2608 and repropoed October 7, 1981 at 46 FR 49814. Today's action incorporates changes to the repropoal and finalizes these regulations.

DATE: These rules are effective March 10, 1982.

ADDRESS: Docket A-79-01, containing material relevant to this action, is located in the Central Docket Section (A-130), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: Mr. Bruce Polkowsky, MD-15, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. Telephone: (919) 541-5540.

SUPPLEMENTARY INFORMATION:

Docket Statement

All pertinent information concerning the development of these regulations is included in Docket No. A-79-01.

The Docket is open for inspection by the public between the hours of 8:00 a.m. and 4:00 p.m., Monday through Friday, at the EPA Central Docket Section, West Tower Lobby, Gallery One, 401 M Street, S.W., Washington, D.C. Background documents normally available to the public, such as Federal Register notices and Congressional reports, are not included in the docket. A reasonable fee may be charged for copying documents.

I. Background

A. Statute

Section 123 was added to the Clean Air Act by the 1977 Clean Air Act Amendments. It prohibits stacks taller than good engineering practice (GEP) height and other dispersion techniques from affecting the emission limitations required to meet the national ambient air quality standards (NAAQS) or prevention of significant deterioration air quality increments (PSD increments). Section 123 requires EPA to promulgate regulations which define GEP stack height, and which restrict the use of other dispersion techniques, including intermittent or supplemental control techniques. This rulemaking fulfills this requirement. In the near future, EPA also intends to propose rules on the use of intermittent control techniques.

B. Rulemaking

On January 12, 1979 (44 FR 2608), EPA published a notice proposing limitations on stack height credit and other dispersion techniques. The notice proposed specific rules to be used in determining GEP stack height for any source and specific requirements for State Implementation Plan (SIP) revisions. EPA provided an extended period for the submission of public comments on these proposed regulations. EPA held a public hearing on May 31, 1979 followed by a 30-day period for the submission of additional comments (44 FR 24329, April 25, 1979).

EPA provided for comments on additional technical information (44 FR 40359, July 11, 1979 and 46 FR 24596, May 1, 1981). Finally, EPA recently repropoed the regulations with changes made in response to the comments received (46 FR 49814, October 7, 1981).

Forty individuals and groups commented on the October 1981 proposal. EPA has considered all comments and has made a number of changes in the regulations in response to these comments. Most of these changes simply clarify the proposed rules. The revisions are outlined in Section IV: "Changes in the Regulations from the October 1981 Proposal." In addition, EPA has prepared a document entitled "Summary of Comments and Responses on the October 7, 1981 Proposal of the Stack Height Regulations." This document has been placed in Docket A-79-01, and, depending upon available supplies, copies may also be obtained from: EPA Library (MD-35), U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711. A copy of this document will be sent to all persons who submitted comments on the October 1981 proposal.

C. Documents

In conjunction with the regulations, EPA developed several technical and guidance documents. These served as background information for the regulations and all are included in Docket No. A-79-01. The following documents have been placed in the National Technical Information Service (NTIS) system and may be obtained by contacting NTIS at 5285 Port Royal Rd., Springfield, Virginia 22161.

(1) "Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for Stack Height Regulation)," July 1981, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, EPA-450/4-80-023. (NTIS PB82 145301)

(2) "Guideline for Use of Fluid Modeling to Determine Good Engineering Practice Stack Height," July 1981, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, EPA-450/4-81-003. (NTIS PB82 145327)

(3) "Guideline for Fluid Modeling of Atmospheric Diffusion," April 1981, U.S. Environmental Protection Agency, Environmental Sciences Research Laboratory, EPA-600/8-81-009. (NTIS PB81 201410)

II. Program Overview

A. *The Problem*

There are two general methods for preventing violations of the NAAQS and PSD increments. Emission controls reduce, on a continuous basis, the quantity, rate, or concentrations of pollutants released into the atmosphere from a source. In contrast, dispersion techniques rely on the dispersive effects of the atmosphere to carry pollutant emissions away from a source and to prevent high concentrations of pollutants near the source. The Clean Air Act requires pollution sources to meet the NAAQS and PSD increments by complying with emission limitations instead of relying on dispersion techniques.¹ Section 123 defines stack height exceeding GEP as a dispersion technique.

Tall stacks and intermittent or supplemental control systems (ICS or SCS) are the two basic types of dispersion techniques. Tall stacks enhance dispersion by releasing pollutants into the air at elevations high above ground level, increasing the volume of air through which pollutants must travel to reach the ground. Releasing pollu-

¹ See Sections 110(a)(2)(B), 123, 302(k), and 302(m) of the Act, 42 U.S.C. 7410(a)(2)(B), 7423, 7602(k), and 7602(m). The Notice of Proposed Rulemaking contains a more detailed discussion of the Act's prohibition of the use of dispersion techniques. See 44 FR 2608-2610.

tants from a tall stack allows a source to reduce the ambient levels of its pollution as measured at ground level without reducing the amount of pollution it releases. Intermittent and supplemental control systems vary a source's rate of emissions to take advantage of meteorological conditions. When atmospheric conditions do not favor dispersion and an NAAQS may be violated, the source temporarily reduces its pollutant emissions. When conditions favor rapid dispersion, the source emits pollutants at higher rates.

Use of dispersion techniques instead of constant emission controls can result in additional atmospheric loadings which may contribute to undesirable environmental effects. The use of tall stacks increases the possibility that pollution will travel long distances before it settles to the ground.

Although dispersion techniques may produce adverse effects, some stack height is needed to prevent excessive concentrations of pollutant emissions created by airflow disruptions caused by structures, terrain features, and ground-level meteorological phenomena. These excessive concentrations result from interference with the plume. Section 123 responds to this problem by allowing EPA to give a source credit for that portion of its stack height needed to prevent excessive concentrations near the source. This height is called GEP stack height.

The regulations promulgated today define "excessive concentrations," "nearby," and other important concepts. They also establish methods for determining the GEP stack height for all stationary sources to which these regulations apply.

B. The Program

These regulations do not limit the physical stack height of any source, nor require any specific stack height for any source. Instead, they set limits on the maximum

stack height credit to be used in ambient air quality modeling for the purpose of setting an emission limitation and calculating the air quality impact of a source. Sources are modeled at the physical stack height unless that height exceeds their GEP stack height. The regulations apply to all stacks constructed and all dispersion techniques implemented since December 31, 1970.

1. Methods of Determining GEP Stack Height. The regulations establish three basic methods of calculating a source's GEP stack height.

(a) *De minimis height*—EPA is adopting 65 meters as the minimum GEP stack height for all sources regardless of the size or location of any structures or terrain features. Sixty-five meters represents a reasonable estimate of the height needed to insure that emissions will not be affected by common ground-level meteorological phenomena which may produce excessive pollutant concentrations. Typical causes of these phenomena include surface roughness and the temperature changes caused by the solar heating and terrestrial cooling cycle (see page 26 of the Technical Support Document).

Virtually all significant sources of SO₂ can justify stack height credits greater than 65 meters. Accordingly, this *de minimis* height will have little effect on atmospheric loadings of sulfur dioxide.

(b) *Mathematical Formulas*—Excessive concentrations may be produced by downwash, wakes, and eddies caused by structures located near the stack. EPA is adopting two formulas with which to calculate the GEP stack height: One for stacks in existence on January 12, 1979 (the date of publication of EPA original proposed rules), and one for stacks constructed after that date.

For stacks in existence on January 12, 1979, EPA has adopted the traditional engineering formula of two and one-half times the height of the nearby structure ($H_s = 2.5H$) as the formula for determining the GEP

stack height. For stacks constructed after January 12, 1979, EPA has established a refined formula of the height of the nearby structure plus one and one-half times the height or width of the structure, whichever is less ($H_s = H + 1.5L$) as the formula for determining the GEP stack height.

(c) Physical Demonstration—In some cases, a source may need a stack taller than the height predicted by the formulas to prevent excessive concentrations of a pollutant due to downwash, wakes, or eddies created by structures or terrain obstacles. In such cases, Section 123 provides that a source may obtain credit for all of the stack height necessary to avoid excessive concentrations provided it demonstrates to the satisfaction of the reviewing authority that the additional height is necessary.

EPA is requiring such a source to demonstrate that maximum concentrations caused by the source's emissions from its proposed stack height, without consideration of nearby structures or terrain obstacles will increase by at least 40 percent when the effects of the structures or terrain obstacles are considered. This difference in concentrations must be shown either by a fluid model study conducted in accordance with guidelines published by EPA or by a field study which has been approved by the reviewing authority.

Before a source can obtain credit for a GEP stack height determined by a fluid model or field study demonstration, Section 123(c) requires that the reviewing authority must notify the public of the availability of the source's demonstration study and must provide an opportunity for a public hearing.

2. Method of Adjusting GEP Stack Height for Elevated Terrain Areas. As traditionally defined, plume impaction occurs when a plume emitted from a stack interacts with terrain that is taller than the stack. The contact between the plume and the terrain can produce

high pollutant concentrations. EPA is establishing a procedure which will allow sources to adjust their GEP stack height to avoid modeled plume impaction on elevated terrain causing one to predict violations of the NAAQS or applicable PSD increments which will not occur. (This procedure is explained in Section IV.C.) The predicted violations will not occur because the physical stack height is sufficient to ensure that the plume passes over the elevated terrain.

Before a source can obtain credit for a GEP stack height based on allowances for terrain impaction, the reviewing authority must notify the public of the availability of the source's demonstration study and must provide an opportunity for a public hearing.

3. Grandfathered Stack Height. The 1970 Clean Air Act became effective on December 31, 1970. Prior to that date some sources had constructed stacks taller than their GEP height. In Section 123, Congress recognized this and exempted those sources' stack heights. Section 123 allows credit for stack height in existence on December 31, 1970. A source's stack is considered to be "in existence" if that stack was part of the design of a facility on which construction commenced prior to December 31, 1970.

4. Other Dispersion Techniques. The regulations prohibit the use of other dispersion techniques to attain or maintain any NAAQS or protect a PSD increment. Those techniques include major alteration of plume characteristics such as the manipulation of exhaust flow rates or temperatures for the purpose of enhancing plume rise. The regulation defines three types of dispersion techniques: (1) tall stacks, (2) use of ICS or SCS, and (3) addition of a fan or reheater to obtain a less stringent emission limitation. However, the regulations exempt (1) reheating of a gas stream following the use of a pollutant control system, (2) smoke management in agricultural or silvicultural programs, and (3) combining exhaust gases from several stacks into one stack.

III. State Implementation Plan Requirements

EPA is establishing a two-stage process for the implementation of these regulations. All States must review and revise, as necessary, their SIPs to include provisions that limit stack height credits and dispersion techniques in accordance with these regulations. Section 406(d)(2) of the Clean Air Act Amendments of 1977 requires that these SIP revisions be submitted within nine months of promulgation of these regulations.

After EPA approves a State's stack height rules, the State must review existing limitations to determine whether these limitations have been affected by stack height credit above GEP levels or any other dispersion technique. If so, the State must revise the emission limitations to be consistent with its revised SIP.

IV. Changes in the Regulations From the October 7, 1981 Proposal

EPA has made several changes in the proposed regulations as a result of the public comments on the repropoed regulations. These changes are noted below.

A. *Prospective Application of the New GEP Formula*

On February 18, 1976 (41 FR 7450), EPA published the "Stack Height Increase Guideline" which provided guidance on its policy for the use of tall stacks. The guideline permitted credit for stacks up to two and one-half times the height of the facility it served. On November 3, 1977, after passage of the Clean Air Act Amendments of 1977, EPA promulgated a final rule on some changes to its prevention of significant deterioration (PSD) program (42 FR 57459). As part of the preamble to that notice, EPA defined GEP as "two and one-half times the height of the source" (2.5H).

On January 12, 1979 (44 FR 2608), EPA proposed regulations to implement Section 123 which refined the

two and one-half times rule by defining GEP stack height as the height of a nearby structure plus one and one-half times the lesser of the height or width of the nearby structure ($H+1.5L$). That proposal and the reproposal of that regulation on October 7, 1981 (46 FR 49814) would have made the new formula retroactive to December 31, 1970.

Four commenters argued that EPA's definition of GEP, until January 12, 1979, had been based on two and one-half times the building height and that sources in good faith had constructed stacks in accordance with that definition. Applying the new formula retroactively would be unfair to those sources. The commenters argued that the new formula should be applied prospectively.

In response to these comments, EPA has developed two formulas for determining GEP stack height: (1) For stacks in existence on January 12, 1979, the formula is $H_s=2.5H$; (2) for all other stacks, the formula is $H_s=H+1.5L$.

B. Definition of "in existence"

Section 123 does not affect stack heights "in existence" on December 31, 1970. In October 1981, EPA proposed to define "in existence" to mean that the owner or operator of a stack had obtained all necessary preconstruction permits or approvals required by Federal, State or local air pollution control agencies, and either (1) actually commenced construction, or (2) entered into a binding commitment for construction.

Comments on the repropoed definition stated that this new definition would discriminate unfairly against sources located in the few States or local jurisdictions which required construction permits for air pollution sources in 1970. (There were no Federal permit programs in 1970.) EPA agrees that the repropoed definition might operate unfairly. EPA has deleted the requirement for such ap-

provals or permits in determining whether a source's stack is "in existence" as of December 31, 1970.

However, the regulations now apply the two and one-half times formula for determining GEP only to stacks "in existence" on January 12, 1979. Federal requirements for preconstruction permits for air pollution sources were effective well before 1979. Accordingly, EPA is retaining the permit requirement for sources which want to claim credit for stacks "in existence" as of January 12, 1979. EPA has changed § 51.1(ii), which defines GEP, to require sources wishing to use the two and one-half times formula to show that they had obtained, prior to January 12, 1979, all preconstruction permits required by 40 CFR Parts 51 and 52.

The remaining portions of the definition of "in existence" are identical to the October 1981 proposal.

C. Impaction Credit

Many comments on the January 1979 proposal asked EPA to provide stack height credit for a source which experiences plume impaction. Plume impaction occurs when a plume emitted from a stack interacts with a terrain feature that is taller than the stack. The contact between the plume and the terrain feature can produce high pollutant concentrations, especially under stable atmospheric conditions in which the plume disperses slowly.

EPA decided that sources should receive stack height credit when impaction produces concentrations high enough to violate an NAAQS or applicable PSD increment. EPA included in its October 1981 reproposal a procedure for determining the amount of credit needed to prevent plume impaction.

EPA has received three types of comments on the proposed impaction credit. Environmental groups claimed that Section 123 does not authorize impaction credits. Several industrial commenters asked EPA to clarify the

proposed procedures for impaction credits. Finally, some industrial commenters asked EPA to modify a portion of its proposed procedures. To respond to these comments, EPA is presenting below a brief description of its rationale and procedures for impaction credits. EPA is also providing a brief explanation of its reason for declining to make procedural modifications.

(1) Rationale

Plume impaction resembles downwash, wakes, and eddies. In all of these events, structures or terrain features interfere with plume dispersion. If the interference occurs relatively close to the stack, before the plume has had adequate opportunity to disperse, high concentrations of pollutants can occur.

In enacting Section 123, Congress decided that sources should be allowed sufficient stack height credit to prevent high pollutant concentrations caused by downwash, wakes, and eddies. Congress called this height "good engineering practice." Any additional stack height was to be regarded as a dispersion technique that might allow a source to relax its emissions limitations. Section 123 does not mention impaction. However, neither the language of the statute nor the legislative history show that this omission was deliberate. EPA considers impaction to be enough like downwash that the same rationale should apply. GEP stack height should include credit needed to avoid high concentrations caused by impaction. Accordingly, EPA has decided to exercise general rulemaking authority to establish stack height credit needed to prevent high concentrations caused by plume impaction.

EPA recognizes Congress did not want the stack height rules to grant too much credit to sources locating in complex terrain, for "the result could be an open invitation to raise stack heights to unreasonably high elevations." H.R. Rep. No. 95-294, 95th Cong., 1st Sess.

at 93 (1977). Therefore, EPA has carefully tailored impaction credit procedures to provide only the minimum stack height credit needed to avoid high concentrations² produced by impaction. These procedures are described in more detail below.

EPA is convinced that its narrowly drawn rules represent a reasonable solution for a plume effect that closely resembles the phenomena of downwash, wakes, and eddies. Credits for plume impaction, when carefully limited, should not be regarded as a dispersion technique. Although the promulgated procedure allows for the use of some stack height to avoid high pollutant concentrations on elevated terrain, it does not permit excessive dispersion credits.

(2) Explanation of Procedures

EPA has developed a three-step procedure for determining the amount of stack height credit appropriate for a source with a predicted impaction concentration violating an NAAQS or applicable PSD increment.

First, a source must determine its downwash GEP height—the amount of stack height that can be justified based on downwash, wakes, or eddies—using any of the three methods described in Section II.B. above. Using this GEP height, the source must show that its plume would come into contact with elevated terrain (defined as terrain taller than this GEP height) and together

² EPA considers "high concentrations" to be a violation of an NAAQS or applicable PSD increment. Unlike "excessive concentrations" caused by downwash, high concentrations caused by plume impaction occur in different meteorological conditions than downwash and are longer in duration. High concentrations due to plume impaction can be compared easily to an NAAQS or applicable PSD increment. Therefore, EPA has required that the concentration caused by plume impaction must be in excess of an NAAQS or applicable PSD increment before a source can adjust its GEP stack height.

with background concentrations cause a violation of an NAAQS or applicable PSD increment. If the source cannot show that a violation would occur, it cannot claim any impactation credit. Its stack height credit would be limited to the GEP height already calculated.

If a violation is modeled, the second step is to determine the source's maximum allowable emission limitation. In this step the source would model its air quality impact using the previously determined GEP height and assuming that the terrain feature(s) causing impactation is no taller than its downwash GEP height. Using the appropriate maximum concentration from this modeling scenario, the source would calculate an emission limitation which would become its maximum allowable emission limitation.

The third step allows the source to adjust its GEP stack height to account for the plume impactation on actual terrain features above the downwash GEP stack height. The source cannot adjust its maximum allowable emission limitation. The source would model its air quality impact again, this time using actual terrain elevations, but limiting its emissions to the rate fixed by the emission limitation developed in step two. The source would increase the height of the stack in the model to the height at which the maximum concentration predicted to occur on elevated terrain equaled the maximum concentration predicted to occur in step two. This increased stack height is the source's maximum GEP height to avoid high concentrations due to impactation.

Like the downwash GEP height, this stack height will represent maximum allowable credit. The source would not be able to claim this credit if its physical (actual or proposed) stack height were not as tall as its maximum creditable height. In that case, the source would be able to claim only its physical stack height. A source with physical stack height lower than its allowable GEP height would have to adjust its emission limitation down-

ward to prevent a violation of an NAAQS or applicable PSD increment.

(3) Modification Requested by Commenters

The electric utilities requested that EPA assume, during the Step two modeling, that all terrain features are no taller than ground elevation at the base of the stack or, in other words, that the source is located in absolutely flat terrain. The utilities believe that this assumption is necessary to ensure equity between sources located in elevated terrain and sources in flat terrain.

EPA has decided not to make this change to its procedure. EPA's objective is to provide the minimum stack height credit needed to allow a source to avoid high concentrations caused by plume impaction. A source in assumed flat terrain would obtain a less restrictive emission limitation than a source in terrain assumed to be as tall as its downwash GEP height. The flat terrain assumption would thus allow a source to obtain more stack height credit than needed to prevent impaction. It would also have a greater negative impact on air quality by allowing taller stacks and more relaxed emission limits.

D. Dispersion Technique

EPA received numerous comments on the definition of the term "dispersion technique." Most of these comments stated that wording concerning the enhancement of plume rise was vague. Comments specifically mentioned that many changes in operation or equipment made for engineering purposes, to improve reliability or efficiency, could be construed as a dispersion technique. This is not the intent of the definition. EPA has changed the definition of dispersion technique to prevent the addition of a fan or reheater to obtain a less stringent emission limitation. The purpose of this change is to prevent only the installation of equipment clearly intended to

enhance plume rise. The new definition should not prevent equipment changes intended to improve reliability and efficiency.

E. Definition of "Stack"

Comments on the January 1979 proposal urged EPA to exempt "flares" from the definition of "stack." EPA agreed that flares, which are designed to dispense heat and vent emissions intermittently for safety purposes, do not serve the same purpose as stacks, which are typically a source's major and most constant emissions point. EPA announced that it would exempt flares from the stack height regulations in the preamble to the October 1981 reproposal. New comments urged EPA to include this exemption in the regulations themselves to eliminate any potential for confusion or misunderstanding. In response to these comments, EPA is incorporating a specific exemption for flares into the definition of "stack."

F. Section 123 and Physical Stack Height

EPA received several comments on the October 1981 reproposal which indicated that the commenters believed that the proposed regulations would give EPA authority to limit a source's actual stack height. EPA did not intend to create this impression. In fact, EPA stated in the preamble to the reproposal that Section 123 expressly prohibits the Agency from limiting physical stack height. Section 123 limits only the theoretical stack height used in determining a source's emission limitation. However, to eliminate this confusion, EPA is adding a statement to §§ 51.12(j) and 51.18(l) of the regulations stating that these regulations do not restrict in any manner the actual height of any stack at any source.

G. Measurement of Stack Height

In the proposed definition of a "stack," EPA stated that the "stack height is the distance from the ground-level elevation of the plant to the elevation of the stack

outlet." Several commenters requested clarification in the [sic] establishing the ground-level elevation of the plant. For instance, the commenters noted that where a plant was built on a slope the regulation could have varying interpretations. Also, some commenters asked whether the entire plant site should be included or just the portion of the plant site considered "nearby" the stack.

EPA is changing the regulations to clarify this point. EPA deleted from the definition of a "stack," the statement defining stack height. However, EPA clarified the methods for determining GEP stack height by stating that all stack and structure heights are measured from the ground-level elevation at the base of the stack.

If a stack is on top of a building, the ground-level elevation of the building is used as the base elevation. In order to appropriately assess the impact of nearby structures on this stack height, the height of structures is also determined relative to the ground-level elevation of the stack.

H. Minor Wording Changes

Several commenters identified typographical errors and areas where minor wording changes could clarify the regulations. These and other wording changes have been made to correct and to clarify the regulations. These changes did not have any significant effect on the regulations.

V. Impact Analysis

EPA has prepared a series of impact analyses on these regulations. These analyses are in Docket A-79-01. The analyses show that the expected "worst-case" national annual costs to fossil-fuel fired power plants should be less than \$45 million per year. These costs result from conservative estimates of required purchases of lower sulfur coal and estimates of required retrofit of electrostatic precipitators at some plants which purchase the

lower sulfur coal. The worst-case analyses show that the expected reduction in SO₂ emissions is less than 200,000 tons per year. Nationally, these costs could increase electric utility rate charges approximately 0.1 to 0.2 percent. Increases for individual power company rates could range from 0.5 to 30 percent.

VI. Regulatory Flexibility Analysis

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that the attached rule will not have significant economic impact on a substantial number of small entities. This rule applies only to large sources. The impact assessment predicted that these regulations would not have significant impact on any small entities. Based upon our impact analysis, only electric utility plants and possibly one smelter will be significantly affected by these regulations.

VII. Executive Order 12291

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is not "major" because it does not result in an annual effect on the economy of \$100 million, nor does it result in a major increase in costs or prices for consumers, Federal, State, or local governments or individual industries, including the electric power industry.

VIII. Judicial Review

EPA believes that this rule is based on determinations of nationwide scope and effect. Nothing in Section 123 limits its applicability to a particular locality, State, or region. On the contrary, Section 123 applies to sources wherever located. Because of the rule's national applicability, Section 307(b) (42 U.S.C. 7607(b)) requires that any petition for review of the promulgated rule be filed only in the United States Court of Appeals for the Dis-

trict of Columbia and within 60 days of the date of publication.

(Secs. 110, 123, 301, Clean Air Act as amended (42 U.S.C. 7410, 7423, and 7601))

Dated: January 31, 1982.

John W. Hernandez, Jr.,

Acting Administrator.

PART 51—REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS

Part 51 of Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

1. Section 51.1 is amended by revising paragraph (z) and by adding paragraphs (ff), (gg), (hh), (ii), (jj), (kk), (ll), and (mm) as follows:

§ 51.1 Definitions.

* * * *

(z) "Emission limitation" and "emmission standard" mean a requirement established by a State, local government, or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements which limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.

* * * *

(ff) "Stack" means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.

(gg) "A stack in existence" means that the owner or operator had (1) begun, or caused to begin, a continuous program of physical on-site construction of the stack or (2) entered into binding agreements or contractual obli-

gations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in a reasonable time.

(hh) "Dispersion technique" means any technique which attempts to affect the concentration of a pollutant in the ambient air by using that portion of a stack which exceeds good engineering practice stack height, varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant, or by addition of a fan or reheater to obtain a less stringent emission limitation. The preceding sentence does not include: (1) The reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream; (2) the use of smoke management in agricultural or silvicultural programs; or (3) combining the exhaust gases from several stacks into one stack.

(ii) "Good engineering practice (GEP) stack height" means the greater of;

(1) 65 meters;

(2) (i) For stacks in existence on January 12, 1979 and for which the owner or operator had obtained all applicable preconstruction permits or approvals required under this [sic] Parts 51 and 52 of this Title 40, $H_s = 2.5H$

(ii) for all other stacks,

$H_s = H + 1.5L$, where

H_s = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,

H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack,

L = lesser dimension (height or projected width) of nearby structure(s);

(3) The height demonstrated by a fluid model or a field study approved by the reviewing agency, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, structures, or terrain obstacles.

(jj) "Nearby" as used in § 51.1(ii) (2) is that distance up to five times the lesser of the height or the width dimension of a structure but not greater than 0.8 km (one-half mile). The height of the structure is measured from the ground-level elevation at the base of the stack.

(kk) "Excessive concentrations" for the purpose of determining good engineering practice stack height in a fluid model or field study means a maximum concentration due to downwash wakes, or eddy effects produced by structures or terrain features which is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.

(ll) "Plume impaction" means concentrations measured or predicted to occur when the plume interacts with elevated terrain.

(mm) "Elevated terrain" means terrain which exceeds the elevation of the good engineering practice stack as calculated under paragraph (ii) of this section.

2. Section 51.12 is amended by adding paragraphs (j), (k), and (l) as follows:

§ 51.12 Control strategy: General.

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(j) The plan must provide that the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique, except as provided in § 51.12(k) and (l). The plan must provide that before a State submits to EPA a new or revised emission limita-

tion that is based on a good engineering practice stack height that exceeds the height allowed by § 51.1(ii) (1) or (2), the State must notify the public of the availability of the demonstration study and must provide opportunity for public hearing on it. This Section does not require the plan to restrict, in any manner, the actual stack height of any source.

(k) The provisions of §§ 51.12(j) and 51.18(l) shall not apply to (1) stack heights in existence, or dispersion techniques implemented prior to December 31, 1970, or (2) coal-fired steam electric generating units, subject to the provisions of Section 118 of the Clean Air Act, which commenced operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

(l) The good engineering practice (GEP) stack height for any source seeking credit because of plume impaction which results in concentrations in violation of national ambient air quality standards or applicable prevention of significant deterioration increments can be adjusted by determining the stack height necessary to predict the same maximum air pollutant concentration on any elevated terrain feature as the maximum concentration associated with the emission limit which results from modeling the source using the GEP stack height as determined in § 51.1(ii) and assuming the elevated terrain features to be equal in elevation to the GEP stack height. If this adjusted GEP stack height is greater than the stack height the source proposes to use, the source's emission limitation and air quality impact shall be determined using the proposed stack height and the actual terrain heights.

3. Section 51.18 is amended by adding paragraph (1) as follows:

§ 51.18 Review of new sources and modifications.

* * * * *

(1) Such procedures must provide that the degree of emission limitation required of any source for control of any air pollutant must not be affected by so much of any source's stack height that exceeds good engineering practice or by any other dispersion technique, except as provided in § 51.12(k) and (1). Such procedures must provide that before a State issues a permit to a source based on a good engineering practice stack height that exceeds the height allowed by § 51.1(ii)(1) or (2), the State must notify the public of the availability of the demonstration study and must provide opportunity for public hearing on it. This section does not require such procedures to restrict, in any manner, the actual stack height of any source.

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ENVIRONMENTAL PROTECTION AGENCY

[40 CFR, Part 51]

USE OF SUPPLEMENTARY CONTROL SYSTEMS
AND IMPLEMENTATION OF SECONDARY
STANDARDSPreparation, Adoption, and Submittal of
Implementation Plans

On August 14, 1971 (36 FR 15486), the Administrator promulgated as 40 CFR, Part 420, regulations for the preparation, adoption, and submittal of State Implementation Plans (State plan guidelines) under section 110 of the Clean Air Act, as amended. These regulations were republished November 25, 1971 (36 FR 22398), as 40 CFR, Part 51. The amendments proposed herein would revise 40 CFR, Part 51 by making certain modifications and additions.

The proposed amendments would allow selective use of supplementary control systems as a means of attaining and maintaining the national ambient air quality standards (referred to hereafter as "national standards") in cases where permanent production curtailment, shutdown, or delays in attainment of the national standards are the only other alternatives. The proposed amendments also clarify policies on the use of increased stack height to take advantage of the dispersive effects of the atmosphere; modify the definition of "reasonable time" for attainment of secondary national ambient air quality standards; and modify guidelines for preparation of future State Implementation Plan revisions related to attainment and maintenance of national standards for sulfur dioxide and particulate matter.

ACCEPTABILITY OF INCREASED STACK HEIGHT

Effective and reliable operation of a supplementary control system often can be enhanced by increasing the

stack height beyond what would normally be considered good engineering practice. For purposes of this discussion a stack which conforms to good engineering practice is sufficiently tall that emissions from the stack are not significantly affected by the atmospheric downwash, eddies, or wakes created by the facility or nearby structures and terrain. Emissions from stacks which are shorter than required by good engineering practice often can cause excessively high ground level concentrations and nuisances within, and in the immediate vicinity of, the facility. For fairly level terrain, good engineering practice will normally result in stack height approximately two and one-half times the height of the facility and nearby obstructions. For more complex situations, this rule-of-thumb is too simplistic, and detailed engineering and meteorological investigations of the proposed site should be conducted to determine the appropriate stack height. The use of stack height up to the level of good engineering practice is encouraged by EPA in order to avoid local nuisances. But although the Environmental Protection Agency will accept existing stacks, it will not credit, as an acceptable portion of an air pollution control strategy, any extension of stack height beyond that of good engineering practice unless the extension is accomplished as part of an approved supplementary control system.

. . . .

§ 51.13 Control strategy: Sulfur oxides and particulate matter.

. . . .

(h) The increase of stack height up to a height consistent with good engineering practice is acceptable without qualification. An increase in stack height beyond this level is not an acceptable air quality control measure unless accomplished as part of an approved supplementary control system (see Appendix P to this part).

A stack which conforms to good engineering practice is sufficiently tall that emissions from the stack are unaffected by the atmospheric downwash, eddies and wakes which may be created by the facility itself, nearby structures or terrain obstacles.

For fairly level terrain, good engineering practice is normally taken to be a stack height $2\frac{1}{2}$ times the height of the facility or nearby structure. For complex terrain, the $2\frac{1}{2}$ times rule-of-thumb is too simplistic. For such cases, and for more detailed information on good engineering practices, the references listed should be consulted.

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3. Smith, Maynard (editor), "Recommended Guide for the Prediction of the Dispersion of Airborne Effluents," pp. 25-35, American Society of Mechanical Engineers, 345 East 47th Street, New York, N.Y. 10017, May 1968.
4. Turner, D. B., "Workbook of Atmospheric Dispersion Estimates," Publication No. AP-26, EPA, Office of Air Programs, Research Triangle Park, N.C., Revised 1970.
5. Slade, David H. (editor), "Meteorology and Atomic Energy," pp. 221-255, U.S. Atomic Energy Commission, Division of Technical Information, Oak Ridge, Tenn., July 1968.

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THE CLEAN AIR ACT

Sec. 101 (a) The Congress finds—

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

(3) that the prevention and control of air pollution at its source is the primary responsibility of States and local governments; and

(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

(b) The purposes of this title are—

(1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;

(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

(4) to encourage and assist the development and operation of regional air pollution control programs.

Sec. 110. (a) (1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within nine months after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 109 for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within nine months after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) The Administrator shall, within four months after the date required for submission of a plan under paragraph (1), approve or disapprove such plan or any portion thereof. The Administrator shall approve such plan, or any portion thereof, if he determines that it was adopted after reasonable notice and hearing and that—

(A) except as may be provided in subparagraph (I), (i) in the case of a plan implementing a national primary ambient air quality standard, it provides for the attainment of such primary standard as expeditiously as practicable but (subject to subsection (e)) in no case later than three years from the date of approval of such plan (or any revision thereof to take account of a revised primary standard); and (ii) in the case of a plan implementing a national secondary ambient air quality standard, it specifies a reasonable time at which such secondary standard will be attained;

(B) it includes emission limitations, schedules, and timetables for compliance with such limitations, and such other measures as may be necessary to insure attainment and maintenance of such primary or secondary standard, including, but not limited to, transportation controls, air quality maintenance plans, and preconstruction review of direct sources of air pollution as provided in subparagraph (D);

[PL 95-95, August 7, 1977]

(C) it includes provision for establishment and operation of appropriate devices, methods, systems, and procedures necessary to (i) monitor, compile, and analyze data on ambient air quality and, (ii) upon request, make such data available to the Administrator;

(D) it includes a program to provide for the enforcement of emission limitations and regulation of the modification, construction, and operation of any stationary source, including a permit program as required in parts C and D and a permit or equivalent program for any major emitting facility, within such region as necessary to assure (i) that national ambient air quality standards are achieved and maintained, and (ii) a procedure, meeting the requirements of paragraph (4), for review (prior to construction or modification) of the location of new sources to which a standard of performance will apply;

[PL 95-95, August 7, 1977]

(E) it contains adequate provisions (i) prohibiting any stationary source within the State from emitting any air pollutant in amounts which will (I) prevent attainment or maintenance by any other State of any such national primary or secondary ambient air quality standard or (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deteriora-

tion of air quality or to protect visibility, and (ii) insuring compliance with the requirements of section 126, relating to interstate pollution abatement;

[PL 95-95, August 7, 1977]

(F) it provides (i) necessary assurances that the State will have adequate personnel, funding, and authority to carry out such implementation plan, (ii) requirements for installation of equipment by owners or operators of stationary sources to monitor emissions from such sources, (iii) for periodic reports on the nature and amounts of such emissions; (iv) that such reports shall be correlated by the State agency with any emission limitations or standards established pursuant to this act, which reports shall be available at reasonable times for public inspection; (v) for authority comparable to that in section 303, and adequate contingency plans to implement such authority; and (vi) requirements that the State comply with the requirements respecting State boards under Section 128;

[PL 95-95, August 7, 1977]

(G) it provides, to the extent necessary and practicable, for periodic inspection and testing of motor vehicles to enforce compliance with applicable emission standards;

(H) it provides for revision, after public hearings, of such plan (i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of achieving such primary or secondary standard; or (ii) except as provided in paragraph (3) (C), whenever the Administrator finds on the basis of information available to him that the plan is substantially inadequate to achieve the national ambient air quality primary or secondary standard which it implements or to otherwise

comply with any additional requirements established under the Clean Air Act Amendments of 1977; and

[PL 95-95, August 7, 1977]

(I) it provides that after June 30, 1979, no major stationary source shall be constructed or modified in any nonattainment area (as defined in section 171(2) to which such plan applies, if the emissions from such facility will cause or contribute to concentrations of any pollutant for which a national ambient air quality standard is exceeded in such area, unless, as of the time of application for a permit for such construction or modification, such plan meets the requirements of part D (relating to nonattainment areas) ;

[PL 95-95, August 7, 1977]

(J) it meets the requirements of section 121 (relating to consultation), section 127 (relating to public notification), part C (relating to prevention of significant deterioration of air quality and visibility protection) ; and

[PL 95-95, August 7, 1977]

SEC. 123. (a) The degree of emission limitation required for control of any air pollutant under an applicable implementation plan under this title shall not be affected in any manner by—

(1) so much of the stack height of any source as exceeds good engineering practice (as determined under regulations promulgated by the Administrator), or

(2) any other dispersion technique.

The preceding sentence shall not apply with respect to stack heights in existence before the date of enactment of the Clean Air Amendments of 1970 or dispersion techniques implemented before such date. In establishing an emission limitation for coal-fired steam electric generating units which are subject to the provisions of

section 118 and which commenced operation before July 1, 1957, the effect of the entire stack height of stacks for which a construction project was awarded before February 8, 1974, may be taken into account.

(b) For the purpose of this section, the term "dispersion technique" includes any intermittent or supplemental control of air pollutants varying with atmospheric conditions.

(c) Not later than six months after the date of enactment of this section, the Administrator, shall after notice and opportunity for public hearing, promulgate regulations to carry out this section. For purposes of this section, good engineering practice means, with respect to stack heights, the height necessary to insure that emissions from the stack do not result in excessive concentrations of any air pollutant in the immediate vicinity of the source as a result of atmospheric downwash, eddies and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles (as determined by the Administrator). For purposes of this section such height shall not exceed two and a half times the height of such source unless the owner or operator of the source demonstrates, after notice and opportunity for public hearing, to the satisfaction of the Administrator, that a greater height is necessary as provided under the preceding sentence. In no event may the Administrator prohibit any increase in any stack height or restrict in any manner the stack height of any source.

EXCERPTS FROM ENVIRONMENTAL RESEARCH
AND TECHNOLOGY, ANALYSIS OF EPA PRO-
POSED REGULATIONS ON STACK HEIGHT LIM-
ITATION (MARCH 1979) (SUBMITTED AS AP-
PENDIX C TO COMMENTS OF THE UTILITY
AIR REGULATORY GROUP (MARCH 7, 1979))

1. COMPARISON OF THE GEP REGULATIONS
WITH THE EPA/FEA REPORT

1.1 Impacts on Plants Located in Elevated Terrain

In 1975, EPA and FEA initiated a joint study to assess the impacts of alternative approaches to prevention of significant deterioration. The EPA/FEA study published in October 1975 (EPA/FEA, 1975) analyzed 74 coal-fired power plants units that were planned to begin operation by 1983 to determine how many could comply with PSD increments. The analysis used EPA's CRSTER model to estimate the maximum sized plant which could be built for cases where the plant's stack is higher than the surrounding terrain. Terrain adjusted stack heights (i.e., the difference between the stack top and the surrounding terrain) of 0, 250, 500, 750 and 1000 ft were analyzed*. The analysis also used the EPA VALLEY model assumptions to calculate maximum plant size when the surrounding terrain was at least 500 ft higher than the plant's stack. Thus, the EPA/FEA report not only considered terrain below stack top but also cases where the plume would directly impact on terrain. In addition, neither building nor terrain-induced enhanced concentrations due to downwash were considered in the report. The choice of stack height is important in determining expected compliance with the PSD Class II increments in the region immediately surrounding each plant. When considering plume impaction elevated terrain cases

* Vol. II, p. IV-1.

(i.e., terrain elevations exceeding stack tops by 500 ft), the EPA/FEA report indicated that a 1,000-Mw plant, even when operated at an emission rate of 0.12 lb/10⁶ Btu (corresponding to the use of low sulfur Western coal and a continuously effective 90% removal efficiency scrubber) would use up the entire Class II 24-hour increment if terrain elevations exceeded stack top height by 500 feet within approximately 3 miles of the plant (EPA/FEA 1975)**.

By projection based on the EPA modeling methods, it can be concluded that a 5-mile radius excluding elevated terrain would be needed to site a 1,000-Mw new plant if the emission limitation were 0.2 lb/10⁶ Btu. A greater radius excluding rough terrain is required if a larger site capacity is to be permitted or if less than 100% of the available increment is left for the new plant. This terrain consideration is important because the definition of elevated terrain is much more restrictive when stack height credits are constrained to values less than 500 feet, as would occur under the proposed stack height regulations for many power plants (see discussion under Section 2.3).

The House Report on HR 6161 comments as follows (p. 161):

The committee's bill does not significantly restrict industrial development in areas of sloping or hilly terrain. According to the previously cited FEA-EPA studies, even a large 3500 mw powerplant could be built in rugged terrain—under this bill.

This statement may be misleading; Table C-5 of Volume II of the EPA/FEA report indicates that 3,500-Mw capacity could be permitted when low sulfur Western coal is used with a scrubber only if the plume impaction on

** Vol. I, p. 3 and Vol. II, Table C-5.

elevated terrain were at least 12 kilometers (km) (approximately 7.5 miles) from the plant site. The House Report would thus suggest that major plants with stringent emission controls can be sited in rough terrain as long as the terrain elevations do not exceed stack heights within several miles surrounding the plants. Restrictions to allowable stack height severely limit the number of such sites, particularly along water sources in the mountainous, coal-producing regions of the country.

1.2 Comparison of Stack Height Restrictions (EPA/FEA Report, Proposed GEP Regulations)

Congress relied on the EPA/FEA findings that (1) generally, well-controlled power plants could be built at sites avoiding nearby terrain influences (i.e., no terrain above stack top within a few miles) and (2) specifically, most of the EPA/FEA actual 74-plant sample could be permitted if they were well controlled. However, the proposed (January 12) stack height regulations would restrict the stacks at the 74 plants as follows:

- Average stack height for the 74 plants, as
 actually planned587 feet
- Stack height used in the EPA/FEA analysis500 feet*
- Average stack height for the 74 plants
 permitted by proposed GEP
 regulations465 feet

The average GEP stack heights reported here are calculated from twice the average building height of the sample as was done in EPA's Draft Impact Assessment Report. Therefore, the adoption of the proposed GEP regulations would reduce the creditable stack heights for the 74 actually planned coal burning facilities studied in the EPA/FEA analysis by 21%. The GEP stack heights would also be 7.5% less than the 500-ft nominal height

* Even though other stack heights were considered in the EPA/FEA analysis, the results reported for the 74 plant sample correspond to the 500 ft case.

adopted for the EPA/FEA analysis. Larger capacity facilities would generally experience even greater than average reductions of their planned stack heights; among the 74 plants sampled, the larger units generally have been planned with the larger stack heights. Plants to be located in mountainous areas are particularly sensitive to the loss of permissible stack height—lower stack heights result in a greater likelihood of nearby terrain impacts, excluding many candidate sites from consideration for new sources or requiring additional controls on existing sources.

As a separate issue, it should be noted that the EPA/FEA modeling analysis took no account of building and terrain induced downwash effects in determining the site emission limits associated with the power plants analyzed. The incorporation of downwash effects, leading to a possible 40% augmentation of maximum concentrations with a GEP stack height under the proposed guidelines would be a substantial change in the interpretation of the EPA/FEA modeling methodology and would not be consistent with that methodology.

1.3 Summary and Recommendations

To be consistent with the approach and methodology adopted in the EPA/FEA study, on which Congress relied in determining a PSD policy, the GEP regulations should consider appropriate modeling assumptions if terrain-induced impacts for all cases where elevated terrain occurs within several miles (for example, five miles) around a proposed major source are to be avoided. Further, the regulations should not imply that downwash enhanced concentrations must be considered for stack heights slightly less than GEP. Calculations of such enhanced concentrations are inconsistent with the EPA/FEA analysis approach and may not be realistic in actual situations. Most EPA regional offices presently allow enhanced concentrations due to downwash to be neglected when the actual (or proposed) stack height is at, or

slightly below GEP stack height. If EPA were to adopt this interpretation as uniform national policy, such policy would be consistent with the EPA/FEA report.

. . . .

3. MODEL CALCULATIONS FOR A TYPICAL LARGE POWER PLANT

The purpose of this section is to demonstrate the impact of the proposed stack height regulations on a typical large power plant. This analysis differs from that contained in the EPA Impact Assessment Report in that *actual* emissions reductions are predicted, not just an average for the industry. Since the GEP guidelines do not allow credit for reduced concentrations resulting from stacks that are higher than GEP heights, the analysis reported here indicates the emission reductions that are needed if a plant were evaluated with a GEP stack height instead of a greater actual height. The analysis assumes that plant concentration at actual stack height plus background just meets national ambient air quality standards (NAAQS). This assumption is made because any increase in concentration contributed by the source would result in an exceedance of the NAAQS and would have to be eliminated through an emissions reduction.

Calculations were made with EPA recommended diffusion models for both scrubbed and unscrubbed emissions from a power plant located at various distances from specified terrain features. The plant was modeled with a stack at a GEP height of 431 ft and an actual height of 695 ft. The GEP and actual stack heights were chosen because they represent the average of the 54 tall stacks considered in the EPA Impact Assessment Report (p. 13). The stack parameters for this plant are presented in Table 2. The concentrations are calculated on the basis of unit emission rates and are presented in units of $\mu\text{g}/\text{m}^3$ per g/s. The calculations are reported in these normalized units to show the relative differences in predicted plant concentrations for the various situations. The analysis

is based on reasonable assumptions for the stack characteristics of a typical plant, and calculations were made only for receptor points at distances of expected maximum concentrations; therefore, the results should be considered to be estimates only.

The following cases were analyzed for each of the two stack heights:

- flat terrain,
- short terrain, with a height of 430 ft (i.e., terrain just below the GEP stack height),

TABLE 2
STACK PARAMETERS

Parameter	GEP Stack *	Actual Stack *
Stack height (ft)	431	695
Stack gas temperature (°K):		
without controls	400	400
with controls	352	352
Volume flow (standard m ³ /s)	314	314
SO ₂ emission rate (g/s)	Unit (1.0)	Unit (1.0)

* GEP and actual stack heights are based on the average of 54 tall stacks reported in the EPA Impact Assessment Report, page 12.

- medium terrain, with a height of 690 ft (i.e., terrain just below the actual stack height), and
- the above cases with emission controls (scrubbers) on the GEP stack.

3.1 Model Assumptions

Normalized concentrations were calculated using the EPA CRSTER and PTMAX models and, for terrain above stack height, EPA VALLEY model assumptions. Hourly meteorological data for 1964 from two mid-continent sources were used in the CRSTER model. The data from the first source, referred to as station A, were

derived from surface observations at Springfield, IL, and upper air measurements from Peoria, IL. Data from the second source, referred to as station B, were developed from surface observations at St. Louis, MO, and upper air data, from Peoria, IL. The meteorological data sets were then used to calculate 3-hour and 24-hour concentrations resulting from the power plant emissions.

For the flat terrain case, the expected locations of the maximum 3- and 24-hour concentrations for both stack heights were determined from preliminary calculations with the PTMAX model. The location of the maximum hourly impact predicted either for stability A (very unstable) or stability B (unstable) was selected as a reasonable receptor location for the expected maximum 3-hour concentration. For the 24-hour concentration, the receptor location was based on the maximum impact estimated for stability C (slightly unstable) or stability D (neutral). Based on these assumptions, downwind distances of 1.0 and 3.75 km were obtained for the GEP stack height, and 3.0 and 5.8 km for the actual stack height.

For the short terrain case, the CRSTER model was used with a terrain feature of 430 ft elevation located 2.5 km downwind. Again, maximum 3- and 24-hour concentrations were calculated for both stack heights.

The medium terrain case considered terrain features of 690 ft elevation at 2.5 km downwind. Because the CRSTER model cannot be used for terrain height above the stack height, the EPA VALLEY model assumptions were used for the GEP stack height impact evaluation in this case. The VALLEY model predicts the 24-hour concentration by assuming that wind direction persists for 6 hours with a 2.5 m/s wind speed and a stable atmosphere. The 3-hour concentration is based on the persistence of the 1-hour concentration for 3 hours.

The calculations assumed that emissions from the typical large power plant were not scrubbed. Additional anal-

yses were conducted to determine what effect the addition of scrubbers would have on ground-level concentrations from the plant with a GEP stack. The addition of scrubbers would reduce the exit gas temperature of 400°K to about 352°K , allowing for reheating of the exit gas.

3.2 Discussion of Results

The results of the analyses are presented in Tables 3 and 4 for concentrations from the typical plant with uncontrolled and controlled emissions, respectively. The results indicate that substantial reductions in emissions would be required for an existing plant to meet ambient standards if no credit in concentration were given for stack heights greater than GEP height. The larger reductions are estimated for the 3- and 24-hour averages for plants that are near terrain features. These results also indicate that the choice of the meteorological data base did not significantly change the estimated reductions for the terrain cases. Based on these results, the following conclusions are drawn.

- For flat terrain cases, emission reductions greater than 50% are indicated for both sets of meteorological data for the 3-hour average cases. The change in allowed concentration is greater for the 3-hour averaging period than the 24-hour period in these cases.
- The required emission reduction in [sic] always greater when scrubbers are used together with the proposed GEP stack height (Table 4). This occurs because a significant part of the plume rise benefit is lost during the wet scrubbing process.
- In the short terrain case (i.e., where terrain features up to the GEP stack height occur) emission reductions of 50% to 80% are required to maintain a specified 24-hour maximum concentration impact when stack height credit is reduced from 695 ft (i.e., 265 ft above terrain) to the GEP credit of 431 ft.

TABLE 3

CONCENTRATIONS ESTIMATED FOR A TYPICAL LARGE POWER PLANT WITH GEP
AND ACTUAL STACK HEIGHTS FOR VARIOUS TERRAIN FEATURES

Terrain Feature (ft)	Stack Data*	Concentration per Unit Emission Rate ($\mu\text{g}/\text{m}^3$ per g/s) ††			
		3-Hour		24-Hour	
		Meteorological Data **		Meteorological Data **	
		Station A	Station B	Station A	Station B
Flat	GEP	0.35	0.35	0.054	0.054
	Actual	0.21	0.20	0.031	0.026
	Percent reduction from GEP to actual	<hr/> 40	<hr/> 43	<hr/> 43	<hr/> 52
Short (430)	GEP	1.0	1.0	0.48	0.41
	Actual	0.35	0.50	0.10	0.097
	Percent reduction from GEP to actual	<hr/> 65	<hr/> 50	<hr/> 79	<hr/> 76
Medium (690)	GEP†	6.84	6.84	1.71	1.71
	Actual	1.16	1.04	0.46	0.42
	Percent reduction from GEP to actual	<hr/> 83	<hr/> 85	<hr/> 73	<hr/> 75

*GEP=431 ft stack height; actual=695 ft stack height.

**Station A=1964 meteorological data from Springfield and Peoria, IL.

Station B=1964 meteorological data from St. Louis, MO, and Peoria, IL.

†Calculations with VALLEY model assumptions.

††To obtain a SO₂ concentration in $\mu\text{g}/\text{m}^3$, multiply the calculated concentration by a specific emission rate in gm/s.

TABLE 4
CONCENTRATIONS ESTIMATED FOR A TYPICAL LARGE
POWER PLANT ASSUMING A SCRUBBER WITH GEP STACK HEIGHT

Terrain Feature (ft)	Stack Data*	Concentration per Unit Emission Rate ($\mu\text{g}/\text{m}^3$ per g/s) ††			
		8-Hour Meteorological Data **		24-Hour Meteorological Data **	
		Station A	Station B	Station A	Station B
Flat	GEP	0.48	0.40	0.061	0.063
	Actual	0.21	0.20	0.031	0.026
	Percent reduction from GEP to actual	<u>56</u>	<u>50</u>	<u>49</u>	<u>59</u>
Short (430)	GEP	1.57	1.44	0.64	0.61
	Actual	0.35	0.50	0.10	0.097
	Percent reduction from GEP to actual	<u>78</u>	<u>65</u>	<u>84</u>	<u>84</u>
Medium (690)	GEP†	11.20	11.20	2.80	2.80
	Actual	1.16	1.04	0.46	0.42
	Percent reduction from GEP to actual	<u>90</u>	<u>91</u>	<u>84</u>	<u>85</u>

*GEP=431 ft stack height; actual=695 ft stack height.

**Station A=1964 meteorological data from Springfield and Peoria, IL.

Station B=1964 meteorological data from St. Louis, MO, and Peoria, IL.

†Calculations with VALLEY model assumptions.

††To obtain a SO_2 concentration in $\mu\text{g}/\text{m}^3$, multiply the calculated concentration by a specific emission rate in gm/s.

- In the moderate terrain case (i.e., where terrain features approach actual stack height within a few kilometers of the plant) emission reductions of 73% to 85% are required. In the case of scrubber use to meet the lower emission limit, total emission reductions could be as high as 91%.
- The details of moderate terrain calculations are related to the choice of CRSTER or VALLEY as the diffusion model for the impact analysis. Either model can require more restrictive emission reductions depending on the details of the individual case.
- Emission reductions reported here for the *flat terrain* case are about the same as those recorded in the EPA Impact Assessment Report. However, impacts on elevated terrain were not considered in the EPA report: emissions would have to be reduced as much as ten-fold in these cases. EPA's omission of the terrain impact cases seriously underestimates the economic impacts of the proposed regulation.
- For those existing plants with stack heights of 1,000 or 1,200 ft, the calculated effects would be much greater than those listed in Tables 3 and 4.

EXCERPT FROM EEA, INC., COST AND ECONOMIC
IMPACT ANALYSIS OF THE PROPOSED STACK
HEIGHTS REGULATION (AUGUST 15, 1980)

3. COST AND ECONOMIC IMPACTS

3.1 *COST IMPACTS*

The costs of the Stack Heights Regulation would result from costs of purchasing lower-sulfur coal and installing and operating flue gas desulfurization (FGD) systems. Generally, in order to achieve a given sulfur reduction, it is less costly to switch to a lower sulfur coal than to install a FGD system. However, under the proposed Stack Heights Regulation, some plants may be unable to meet their very low sulfur limitations (less than .7 percent sulfur content in the eastern states and less than .4 percent sulfur content in the midwestern and western states), and they may have to install FGD systems to comply with the regulation.

The costs of the regulation were calculated for two cases, the first assuming a 122 m (400 ft) GEP stack height and the second a 183 m (600 ft) GEP stack height. Costs, calculated on a plant by plant basis, were aggregated by EPA region, and by fuel costs versus FGD costs.

Total annualized costs for the U.S. would be \$794 million assuming a 122 m (400 ft) GEP stack height and \$223 million assuming a 183 m (600 ft) GEP stack height. These estimates should not be viewed as upper and lower bounds of the costs of the regulation. Rather, the 794 million per year estimate represents a worst case situation, including the assumption that 122 m (400 ft) is the maximum GEP stack height. Since many power plants will be able to qualify for a higher GEP stack height, the 122 m (400 ft) GEP stack height case represents a maximum cost impact situation and probably overestimates the actual cost of the regulation.

The study also provides an estimate of the costs assuming a 183 m (600 ft) GEP stack height, while retaining the remainder of the worst case assumptions of the 122 m (400 ft) GEP stack height case. Therefore, the 183 m (600 ft) GEP case represents the worst case situation where power plants are assumed to qualify for a 183 m (600 ft) GEP stack height.

Table 3-1 provides the costs of the 122 m (400 ft) GEP stack height case, and Table 3-2, the costs of the 183 m (600 ft) GEP stack height case. The fuel costs column represents the annual costs of switching to a lower sulfur coal to comply with the Stack Heights Regulation. The FGD costs column indicates the annualized costs of retrofitting an 85 percent SO₂ removal FGD system to the existing power plants.

Of the 104 power plants with the potential to be affected by the regulation, 19 would have to install FGD systems under the 122 m (400 ft) GEP case, while only two plants would need FGD systems under the 183 m (600 ft) GEP stack height. Only 23 of the 104 power plants would have no increased costs in the 122 m (400 ft) GEP case, while 67 would not be affected under the 183 m (600 ft) GEP case.

3.1.1 122 m (400 ft) GEP Stack Height Case

The 122 m (400 ft) GEP stack height case would result in a total annualized cost of \$794 million, of which \$771 million, or 97 percent, would be due to FGD costs. Increased coal costs account for the remaining \$23 million per year costs of the regulation. The regional impacts of the regulation are readily apparent from Table 3-1. There would be no cost impacts in Regions I, II, or X; a small impact in Regions VII and VIII; and larger impacts in Regions III and IV. The two regions III and IV would account for \$580 million per year or 73 percent of the total costs per year.

TABLE 3-1. REGIONAL COSTS OF STACK HEIGHTS
REGULATION ASSUMING GEP EQUALS 122 m
(400 ft)

REGION	Fuel Costs (\$)	FGD Costs (\$)	Total (\$)
I	—	—	—
II	—	—	—
III	11,730,873	289,395,000	301,125,873
IV	(22,433,701)	301,165,263	278,731,562
V	30,855,621	91,148,379	122,004,000
VI	(2,071,248)	40,680,150	38,608,902
VII	6,010,912	—	6,010,912
VIII	365,788	—	365,788
IX	(1,234,697)	48,718,363	47,483,666
X	—	—	—
U.S. TOTAL	23,223,548	771,107,155	794,330,703

TABLE 3-2. REGIONAL COSTS OF STACK HEIGHTS
REGULATION ASSUMING GEP EQUALS 183 m
(600 ft)

REGION	Fuel Costs	FGD Costs	Total
I	0	0	0
II	0	0	0
III	99,082,739	0	99,082,739
IV	(6,166,554)	103,035,975	96,869,421
V	23,806,987	0	23,806,987
VI	0	0	0
VII	2,781,103	0	2,781,103
VIII	0	0	0
IX	0	0	0
X	0	0	0
U.S. TOTAL	119,504,275	103,035,975	222,540,250

Region III is composed of the following states:

- Delaware
- District of Columbia
- Maryland
- Pennsylvania
- Virginia
- West Virginia

Most of the impacts in this region will occur in Maryland, Pennsylvania, and West Virginia

Region IV contains the following states:

- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee

The states in Region IV with the highest costs are Alabama, Georgia, and North Carolina.

Capital costs for FGD systems are presented in Table 3-3. Total capital investment required would be \$2.8 billion, with \$2.1 billion of these capital costs occurring in Regions III and IV.

3.1.2 183 m (600 ft) GEP Stack Height Case

The costs of the 183 m (600 ft) GEP stack height case would be \$223 million per year, \$571 million less than in the 122 m (400 ft) GEP case. As can be seen in Table 3-2, most of this decrease in costs would be due to the lower FGD costs in the 183 m (600 ft) GEP case.

Since a 183 m (600 ft) GEP stack height would require much less reduction in sulfur emissions than a 122 m (400 ft) GEP stack height, many power plants would be able to switch to lower sulfur coal instead of installing FGD systems, resulting in substantial cost savings to these plants.

TABLE 3-3. REGIONAL FGD CAPITAL COSTS

Region	122 m (400 ft) GEP Case	183 m (600 ft) GEP Case
I	0	0
II	0	0
III	982,212,750	0
IV	1,101,747,488	350,240,314
V	333,369,734	0
VI	111,548,325	0
VII	0	0
VIII	0	0
IX	223,916,917	0
X	0	0
TOTAL U.S.	2,752,795,214	350,240,314

The regional costs of the regulation would be highly concentrated in Regions III and IV, which would account for 88% of the projected costs. Regions V and VII would have minor costs, while Regions I, II, VI, VIII, IX, and X would not be affected. Total capital costs for FGD systems would be \$350 million, as shown in Table 3-3.

3.2 ECONOMIC IMPACT

The major economic impact of the Stack Heights Regulation would be to increase the cost of electricity to consumers. All of the costs of using lower sulfur coal or installing FGD systems are assumed to be passed on to the consumer, either through fuel adjustment clauses or rate increases. Nation-wide, the costs of the Stack Heights Regulation were estimated to be .05 cents/kWh

in the 122 m (400 ft) GEP case and .02 cents/kWh in the 183 m (600 ft) case, as shown in Table 3-4. The impact on electricity rates would be small; 1.3 percent in the 122 m (400 ft) GEP case and 0.5 percent in the 183 m (600 ft) GEP case.

However, while the economic impacts averaged across utilities would not be very high, the economic impact on the rates of individual utilities could be significant. Utilities in Regions III and IV would experience the largest economic impact with the rate increases ranging up to 26 percent (see Table 3-5).

TABLE 3-4. ECONOMIC IMPACT ON ELECTRICITY PRICES

	122 m (400 ft) GEP Case	183 m (600 ft) GEP Case
Average Retail Electricity Price (1979) (¢/kWh)	3.99	3.99
Increase in Price due to Stack Height Regulation	0.05	0.02
Percent Increase	1.3	0.5

TABLE 3-5. ECONOMIC IMPACT ON SELECTED UTILITIES

Utility	Region	1979 Average Retail Electricity Price (\$/kWh)	Increase in Price due to Stack Height Regulation (\$/kWh)		Percent Increase	
			122 m (400 ft) GEP Case	183 m (600 ft) GEP Case	122 m (400 ft) GEP Case	183 m (600 ft) GEP Case
A	III	3.32	.87	.11	26.2	3.3
B	III	4.28	.52	.09	12.2	2.1
C	IV	3.86	.27	.02	7.0	0.5
D	IV	3.61	.25	.18	6.9	5.0
E	IV	3.75	.16	.00	4.3	0.0

MAY 25 1984

No. 83-1429

IN THE

Supreme Court of the United States

OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*,
Petitioners,

v.

SIERRA CLUB,
NATURAL RESOURCES DEFENSE COUNCIL,
COMMONWEALTH OF PENNSYLVANIA,
STATE OF NEW YORK,
COMMONWEALTH OF MASSACHUSETTS,
STATE OF VERMONT,
STATE OF RHODE ISLAND,
AND STATE OF NEW HAMPSHIRE,
Respondents.

On Petition for a Writ of Certiorari
to the United States Court of Appeals for
the District of Columbia Circuit

BRIEF FOR RESPONDENTS IN OPPOSITION

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May 25, 1984

QUESTIONS PRESENTED

Whether the D.C. Circuit, in reviewing regulations promulgated by the Environmental Protection Agency pursuant to §123 of the Clean Air Act, 42 U.S.C. §7423, properly concluded that the agency erred by

1. Implying an unauthorized exemption to the comprehensive prohibition on dispersion techniques in §123(a) of the Act;

2. Failing to implement the statutory term "nearby terrain obstacles" (§123(c));

3. Defining the statutory term "excessive concentrations" (§123(c)) so as to allow evasion of pollution controls through tall smokestacks that serve no public health or welfare goals;

4. Defining the statutory term "good engineering practice" (§123(a)(1) & (c)) in a biased manner that favors taller smokestacks and increased pollution; and

5. Adopting a twenty-two month timetable for implementation of its regulations, in disregard of the explicit nine-month deadline in §406(d)(2) of the Act, 42 U.S.C. §7401 note.

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BRIEF FOR RESPONDENTS IN OPPOSITION

OPINION BELOW

The opinion of the court of appeals dated October 11, 1983 (Pet. App. at 1a)¹ is reported at 719 F.2d 436.

¹ The appendix to the petition of Alabama Power, *et al.*, will be cited herein as "Pet. App. at ____". The petition itself will be cited as "Pet. at ____". The response of Kennecott will be cited as "Kenn. Resp. at ____".

JURISDICTION

The jurisdiction of the Court lies pursuant to 28 U.S.C. §1254(1).

STATUTE AND REGULATIONS INVOLVED

The provisions of the Clean Air Act pertinent to this case are §123, 42 U.S.C. §7423 (Pet. App. at 110a), and §406(d)(2), 42 U.S.C. §7401 note (Pet. App. at 66a). The regulations reviewed by the court below (Pet. App. at 80a) were published at 47 Fed. Reg. 5864 (February 8, 1982). The proposed regulations that preceded these final regulations were published at 46 Fed. Reg. 49814 (October 7, 1981), and 44 Fed. Reg. 2608 (January 12, 1979).

STATEMENT OF THE CASE

This case poses the question whether a handful of electric utilities and metal smelters may persist in their longstanding refusal to comply with air pollution control requirements that have been in effect since 1970.

In that year Congress enacted an extensive overhaul of the Clean Air Act ("CAA") that directed the Environmental Protection Agency to establish "national ambient air quality standards". CAA §109(a), 42 U.S.C. §7409(a). These standards were to specify maximum levels of pollution, exceedance of which would threaten the health and welfare of the public. CAA §109(b), 42 U.S.C. §7409(b). Congress intended that industrial facilities would meet these standards by reducing the quantities of pollution they emit into the air. CAA §110(a)(2)(B), 42 U.S.C. §7410(a)(2)(B) (directing states to adopt, and submit to EPA for approval, enforceable "emission limitations").

While most polluters complied with Congress's mandate, a number of electric utilities and smelters refused to implement any significant emissions reductions. Instead, this recalcitrant minority chose to construct tall smokestacks to disperse their emissions over ever wider areas. Pet. App. at 65a-66a; H.R. Rep. No. 294, 95th Cong., 1st Sess. 88 (hereinafter "House Report"), [1977] U.S. Code Cong. & Ad. News at 1166.

Because these "tall stacks" leave total emissions unchanged, any decrease they produce in pollution concentrations near the emitting facility is bought at the price of increased pollution elsewhere. House Report at 84-85, U.S. Code Cong. & Ad. News at 1162-63.

In the years following 1970 EPA adopted a policy of allowing industry to substitute tall stacks for emissions reduction. This policy was struck down as inconsistent with the 1970 Act in *Natural Resources Defense Council v. EPA*, 489 F.2d 390 (5th Cir. 1974), *rev'd on other issues sub nom. Train v. NRDC*, 421 U.S. 60 (1975); *accord, Kennecott Copper Corp. v. Train*, 526 F.2d 1149 (9th Cir. 1975), *cert. denied*, 425 U.S. 935 (1976); *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16 (6th Cir. 1975), *cert. denied*, 425 U.S. 934 (1976). EPA initially took no action to implement these decisions. Finally, threatened with a contempt proceeding, *NRDC v. EPA*, 529 F.2d 755 (5th Cir. 1976), the agency issued a nonregulatory "Stack Height Increase Guideline". 41 Fed. Reg. 7450 (1976).

In the deliberations on the 1977 Amendments to the Clean Air Act, EPA's guideline was criticized strongly in Congress:

The guidelines are considerably less protective of the environment than the courts' decisions require.

Far from prohibiting the construction of tall stacks or the use of intermittent controls, the guidelines provide that once minimal emission control requirements are met, polluters are encouraged to substitute unlimited stack height for any further control of emissions.

123 Cong. Rec. 18027 (1977) (remarks of Senator Muskie).

Faced with these deficiencies, and with alarming evidence that pollution from tall stacks harms the environment and restricts economic growth, House Report at 82-88, U.S. Code Cong. & Ad. News at 1160-67, Congress added §123 to the Act. EPA has described the effect of this new provision as follows:

While Congress was aware of the Agency's Stack Heights Increase Guideline, it rejected much of the Guideline in the 1977 Amendments and adopted new requirements limiting use of dispersion technology to a greater extent than either the Guideline or the court decisions.

44 Fed. Reg. 2608, 2609 (1979).

Section 123 states flatly that tall stacks are not an acceptable strategy for complying with the Clean Air Act. The method Congress chose to implement this prohibition is of paramount importance to the present case. Since the public is harmed by the increased pollution a tall stack allows, rather than by the stack itself, §123 focusses solely on pollution levels. Congress specifically left industry free to construct stacks as tall as it chooses, §123(c), but provided that excessive stack height must be ignored by pollution authorities when they conduct the computer modeling that is used to set emission limitations. As a result, sources with excessively tall stacks will no longer be allowed to emit more pollution than similarly situated sources with legitimately sized stacks.

For purposes of §123, stack height is to be deemed excessive if it is greater than "good engineering practice" ("GEP"), defined as the height necessary to prevent an aerodynamic phenomenon known as "downwash".² Prevention of downwash is not an independent regulatory goal under §123, and indeed the statute gives EPA no authority to require that stacks be built up to GEP height. Instead, GEP is simply the "bright line" Congress drew to distinguish legitimately sized stacks designed to prevent local nuisances from tall stacks designed to evade emission controls.

Congress directed EPA to issue implementing regulations within six months of enactment of §123. Within nine months thereafter, emission limitations of individual polluters were to be reexamined and revised as necessary to eliminate reliance

² Downwash occurs when turbulent air currents sweep a facility's exhaust gases to the ground on or near the plant site. Section 123(c).

on tall stacks and other dispersion techniques. CAA §406(d)(2)(B), 42 U.S.C. §7401 note.³

Four years after expiration of the congressionally prescribed deadline, under compulsion of a court-ordered timetable,⁴ EPA promulgated regulations pursuant to §123. 47 Fed. Reg. 5864 (1982). On virtually all key issues these rules reversed positions taken by the agency in proposed rules issued in January 1979. 44 Fed. Reg. 2608. Respondents Sierra Club, Natural Resources Defense Council and Commonwealth of Pennsylvania sought review of these regulations in the D.C. Circuit pursuant to §307(b)(1) of the Act, 42 U.S.C. §7607(b)(1). Joining their challenge were the States of New Hampshire, New York, Rhode Island, and Vermont, and the Commonwealth of Massachusetts.

On October 11, 1983 the D.C. Circuit issued an opinion that rejected some of petitioners' challenges and accepted others. Specifically, the court affirmed two provisions of EPA's regulations, reversed two provisions as beyond the agency's statutory authority,⁵ and remanded six provisions to the agency for further action.⁶ Pet. App. at 69a. It is this decision that is challenged in the present petition for certiorari,

³ See also S.Rep. No. 127, 93rd Cong., 1st Sess. 95 (1977):

EPA will be expected to review existing State implementation plans and require revision in any that depend upon dispersion techniques rather than continuous controls. Where necessary State implementation plans will have to be modified.

This passage appears in the legislative history of §302(k) of the Act, which reinforces the mandate of §123 by defining "emission limitation" to include only continuous methods of emission control. 42 U.S.C. §7602(k). See 44 Fed. Reg. at 2609; 47 Fed. Reg. 5864, 5864 n.1 (1982).

⁴ *Sierra Club v. Gorsuch*, Civil No. 81-0094 (D.D.C.).

⁵ One of these provisions was not a substantive element of EPA's regulatory program, but rather a timetable for implementation of that program. Pet. App. at 61a-62a.

⁶ With respect to one of these provisions, the court did not issue any substantive ruling, but found that the agency had committed a procedural error by failing to respond to a public comment during the rulemaking. Pet. App. at 61a-62a. With respect to another, the court affirmed the basic principle underlying the agency's approach, but held that it had been too broadly applied. Pet. App. at 62a-63a.

filed by a consortium of electric utilities that intervened in the proceedings below. The Environmental Protection Agency has not petitioned for certiorari.

REASONS FOR DENYING THE PETITION

The decision of the D.C. Circuit will have only limited social and economic impacts, and will not significantly alter administration of air pollution regulatory programs. This Court has twice denied certiorari in cases concerning the legality of tall stacks and dispersion techniques, even though those cases entailed consequences more far-reaching than are at issue here.

The D.C. Circuit properly deferred to EPA's regulatory judgment, and relied specifically on cases of this Court in doing so. The court overturned portions of the agency's rules only reluctantly, after concluding that certain of the agency's statutory interpretations were unreasonable, and certain of its regulatory conclusions were irrational, unsupported by evidence, and contrary to the purposes of §123.

1. The Social and Economic Impacts of the D.C. Circuit's Decision are Limited.

Petitioners have sought to inflate the importance of this case by sprinkling their petition with references to, *inter alia*, "staggering" economic and social consequences of the D.C. Circuit's decision (Pet. at 3), "infinitely more complex" air quality programs (*id.* at 4), and "dramatic redirection" of air pollution regulation (*id.* at 3). In this hyperbole it is difficult to recognize the true D.C. Circuit decision, which is sharply limited in both application and impact.

a. In a provision of its rules not affected by the D.C. Circuit's decision, EPA has exempted from regulation on *de minimis* grounds all stacks up to 65 meters—213 feet—in height. Pet. App. at 11a-12a. This exemption covers 97 percent of the stationary sources of sulfur dioxide in the nation. 46 Fed. Reg. 49814, 49821 col. 1 (1981). The few facilities with

stacks above 65 meters consist almost exclusively of 148 power plants and four copper smelters.⁷

Even among this group, only a fraction will be affected by the decision below. Emissions must be reduced only at those facilities that meet *both* of the following conditions: (1) the facility's stacks exceed GEP height, and (2) when GEP height is substituted for actual height in the mathematical model used to set emission controls, the model predicts unlawfully high pollution levels.⁸

Nor will the D.C. Circuit's decision inhibit industrial growth. All new power plants and smelters must comply with special emission control requirements that cannot be evaded by use of dispersion techniques.⁹ Petitioners have not shown that the decision below will significantly add to these requirements.¹⁰

b. Petitioners have likewise failed to show that the decision below will have nationally significant monetary impacts. The very EEA Report cited by petitioners concluded that the nationwide impact of the 1979 proposal on electricity rates would be "small", ranging up to a maximum worst-case

⁷ EPA, Impact Assessment Report for the Final Stack Heights Regulations (December 1981), at 2; H.E. Cramer Co., Identifying and Assessing the Technical Basis for the Stack Height Regulatory Analysis (December 1979), at 23-24.

⁸ Section 123 also requires regulation of dispersion techniques other than stack height. §123(a)(2). The D.C. Circuit found EPA's regulations on this issue to be deficient (Pet. App. at 50a-57a), but expressly endorsed the use of a *de minimis* exemption to limit the number of facilities subject to review. Pet. App. at 56a. Petitioners do not challenge this portion of the court's decision.

⁹ 40 C.F.R. §§60.40a, 60.160, 60.170, and 60.180 (new source performance standards for new power plants and smelters); CAA §163(a)(4), 42 U.S.C. §7475(a)(4) (all major new facilities in clean air areas must use "best available control technology"); CAA §173(2), 42 U.S.C. §7503(2) (all major new facilities in dirty air areas must comply with "lowest achievable emission rate").

¹⁰ The very EPA consultant's report relied upon by petitioners concluded that EPA's 1979 proposal would not require significant emissions reductions beyond those mandated by EPA's new source performance standards. Energy and Environmental Analysis, Inc., Cost and Economic Impact Analysis of the Proposed Stack Heights Regulation (August 15, 1980) (hereinafter "EEA Report"), at 4.

level of 1.3 percent (Pet. App. at 128a, 123a). EPA concluded that the EEA Report's figures were "too high", and estimated total nationwide rate increases at less than 0.1 percent.¹¹ Contrary to the assertions of petitioners and Kennecott (Pet. at 10-11, 23-24 n.52; Kenn. Resp. at 4), the agency found that terrain effects were as likely to *reduce* these costs as to increase them.¹²

c. The administration of air pollution programs will not be "redirect[ed]" by the D.C. Circuit's decision. Pet. at 3. Specifically, the states would not "be forced to refocus their air pollution control on nonexistent pollution concentrations predicted using mathematical models." Pet. at 28. Mathematical models long ago replaced on-site measurements of pollution as the nearly universal method of setting air pollution regulations.¹³ The effect of §123 thus is not to replace real pollution measurements with theoretical models, but merely to substitute one assumption for another in already-existing models. As noted above, such substitutions will be required only for a limited group of industrial facilities.

Petitioners' claim that "states would have had difficulty coping with the reviews required under the 1979 proposal" (Pet. at 28 n.61) is irrelevant here. EPA responded to the states' concerns by increasing the *de minimis* stack height from thirty to sixty-five meters, thus vastly reducing the number of facilities whose emission limitations would have to be reexamined. 46 Fed. Reg. 49814, 49821 col. 3 (1981). This solution remains unaffected by the D.C. Circuit's opinion. Pet. App. at 11a-12a. It should also be noted that the states who join in the present brief, and who joined in challenging EPA's regulations in the court below, would not have done so if they had doubted their ability to conduct the regulatory

¹¹ EPA, Impact Assessment Report for the Stack Heights Regulations (April 1981) at 6, 18.

¹² April 1981 Impact Assessment Report, *supra* n. 11, at 12. The EEA Report specifically concluded that terrain effects would reduce the costs of the 1979 proposal. EEA Report, *supra* n. 10, at 6.

¹³ See, e.g., Memorandum on Section 107 Designation Policy Summary from Sheldon Meyers, Director, EPA Office of Air Planning and Standards, to Regional Air Management Division Directors (April 21, 1983), at 2, paragraph 3.

reviews associated with stricter rules.¹⁴ No states intervened below on behalf of EPA.

2. This Court Has Declined To Review Dispersion Techniques Cases More Important Than the Present One.

Petitioners' discussion of prior petitions for certiorari under the Clean Air Act (Pet. at 2-3, 4) omits the very cases most relevant here. In *NRDC v. EPA*, 489 F.2d 390 (5th Cir. 1974), *rev'd on other issues sub nom. Train v. NRDC*, 421 U.S. 60 (1975), the Fifth Circuit ruled that tall stacks and dispersion techniques were prohibited by the Clean Air Act of 1970, and rejected EPA's contrary construction of the Act. Industry sought to overturn this decision by filing suit in two other circuits, and petitioning for certiorari from the resulting unfavorable decisions. This Court denied both petitions. *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16 (6th Cir. 1975), *cert. denied*, 425 U.S. 934 (1976); *Kennecott Copper Corp. v. EPA*, 526 F.2d 1149 (9th Cir. 1975), *cert. denied*, 425 U.S. 935 (1976).

If Supreme Court review was inappropriate in the very cases that initially established the broad prohibition on dispersion techniques, such review is *a fortiori* inappropriate in the present case, which concerns only the manner in which this prohibition will be implemented.¹⁵

3. The D.C. Circuit Properly Deferred to EPA.

Petitioners characterize this case as a broad test of the degree of deference to be accorded agency action. Pet. at 16-

¹⁴ The letter cited by petitioners (Pet. at 28 n.61) does not represent the official position of the state of New York. The Commissioner of the New York Department of Environmental Conservation recently wrote to EPA and the Solicitor General urging that the Government not file a petition for certiorari in these proceedings, and stating "[w]e believe that all aspects of the United States Court of Appeals' decision constitute correct and proper interpretations of the Clean Air Act." Letters of May 7, 1984 from Henry G. Williams to William Ruckelshaus and Rex Lee, at 1.

¹⁵ Petitioners' allegations concerning the relative importance of the present case and previous cases before this Court (Pet. at 4) ignores the factors which greatly limit the effect of the D.C. Circuit's decision. See pp. 6-9, *supra*. Equally important, EPA has not sought certiorari here as it did in two of the three cited cases.

22. But the opinion below shows that the D.C. Circuit understood the teachings of this Court on this issue (Pet. App. at 48a), and that it applied those teachings to uphold the agency's definitions of two statutory terms, despite persuasive indications in the statute and legislative history that EPA had misinterpreted Congress's mandate. Pet. App. at 48a-49a, 59a.¹⁶ Petitioners cannot prove error in the present case by citing *other* D.C. Circuit opinions, particularly when those opinions were written and joined by judges not on the panel below. Pet. at 16 n.36, 17 n.37, & 17-18 n.41.

Nor are petitioners assisted by their reliance on the cases that counsel granting "legislative effect" to agency interpretations of statutes. Pet. at 18-19. These cases hold that a reviewing court must determine "whether the Secretary has exceeded his statutory authority and whether the regulation is arbitrary and capricious". *Herweg v. Ray*, 455 U.S. 265, 275 (1982); *accord*, *Schweiker v. Gray Panthers*, 453 U.S. 34, 44 (1981); *Batterton v. Francis*, 432 U.S. 416, 426 (1977). These are precisely the standards applied by the court below. *See, e.g.*, Pet. App. at 5a ("[W]e find certain aspects of the regulatory scheme to be contrary to the terms of the statute and others to be arbitrary and capricious exercises of the discretion conferred on the EPA by the Act."); *id.* at 69a (reversing two provisions of EPA's rules as "beyond the agency's statutory authority"); *id.* at 44a (stating that the court's task is to determine "whether EPA acted arbitrarily and capriciously"); *id.* at 16a (overturning provision that violates "the clear thrust of the statutory language").

Also applicable here is *Batterton's* statement that an agency may not adopt a regulation "that would defeat the purpose of the . . . [statutory] program". 432 U.S. at 428. All of the provisions overturned or remanded by the D.C. Circuit would have resulted in increased use of tall stacks by polluters,

¹⁶ The court also affirmed the agency on two other issues (Pet. App. at 14a, 28a-31a), and endorsed much of the agency's approach towards a third. Pet. App. at 62a-66a.

thus defeating §123's central purpose of requiring industry to clean up its pollution rather than disperse it.¹⁷

In sum, this case cannot be resolved by a broad decision concerning the appropriate standard of deference to EPA. Rather, this Court will necessarily be called upon to review the statute, legislative and regulatory history, and administrative record to determine if the D.C. Circuit reached a permissible result as to each of the specific issues raised by petitioners.¹⁸ Such review would produce narrow decisions on issues such as: whether GEP should be computed via a rule-of-thumb formula or a case-specific modeling demonstration (Pet. App. at 39a-47a); whether terrain obstacles need to be "nearby" a pollution source to justify increased stack height credit (Pet. App. at 13a-18a); and whether a percentage increase test is a rational method of defining GEP (Pet. App. at 18a-28a). Such issues are more appropriately left to the lower courts.

¹⁷ Contrary to petitioners' assertion (Pet. at 4, 29), Congress specifically found that the public would benefit from the pollution reductions required by §123. House Report at 82-88, U.S. Code Cong. & Ad. News at 1160-67.

¹⁸ As this Court observed in one of the cases cited by petitioners:

Although the Court of Appeals first addressed whether and to what extent it should defer to the Commission's construction of the Act, ... this discussion and the conclusion that little or no deference was due the Commission were *pointless* if the court was correct that the agency agreements violated the plain language of the Act as well as the statutory purposes revealed by the legislative history. The interpretation put on the statute by the agency charged with administering it is entitled to deference, . . . but the courts are the final authorities on issues of statutory construction. They must reject administrative constructions of the statute, whether reached by adjudication or by rulemaking, that are inconsistent with the statutory mandate or that frustrate the policy that Congress sought to implement. . . . Accordingly, the crucial issue at the outset is whether the Court of Appeals correctly construed the Act.

FEC v. Democratic Senatorial Campaign Committee, 454 U.S. 27, 31-32 (1981) (emphasis added), cited in Pet. at 19 n.43.

4. The D.C. Circuit Correctly Determined That Portions of EPA's Regulations Are Inconsistent With The Clean Air Act and Unsupported by the Administrative Record.

While petitioners attempt to portray the D.C. Circuit as a runaway court inclined to overturn agency action for insubstantial reasons, examination of the opinion below makes clear that the court approached this case objectively and vacated portions of EPA's regulations only reluctantly, after concluding they exceeded the agency's authority under the Clean Air Act or were unsupported by the administrative record.

a. *Plume Impaction*—The issue about which petitioners and Kennecott complain most loudly is the D.C. Circuit's invalidation of EPA's exemption for plume impaction. Pet. at 22-26; Kenn. Resp. at 4. A glance at the statute and EPA's rulemaking preamble reveals the correctness of this invalidation, and the falsity of petitioners' assertion that EPA's plume impaction exemption was written against a background of "Congressional silence". Pet. at 26. Section 123 flatly prohibits emission credit for stacks taller than GEP, §123(a)(1), defined as the stack height necessary to prevent "downwash, eddies and wakes". Section 123(c). EPA's plume impaction exemption allows emission credit for stacks taller than necessary to prevent "downwash, eddies and wakes",¹⁹ 47 Fed. Reg. at 5866 col. 3, thus violating the plain language of §123.

Petitioners assert that, because §123 does not specifically mention plume impaction, EPA was free to carve out an exemption from the comprehensive prohibition in §123(a)(1). Pet. at 25-26. This argument is directly contrary to settled principles of statutory construction set forth in the decisions of this Court. Pet. App. at 33a-34a, 35a. Moreover, other

¹⁹ Petitioners do not argue otherwise.

Petitioners' description of the operation of EPA's plume impaction exemption is misleading and inaccurate. In particular, it is petitioners, not the D.C. Circuit, who would have EPA apply "a second false assumption" (Pet. at 23) in the implementation of §123. In petitioners' view EPA must assume not only that stack height is equal to GEP height, but also that "terrain height [is] . . . equal to GEP stack height." Pet. at 23 n.51.

provisions of the Act demonstrate that Congress knew how to provide for more lenient treatment of polluters in rugged terrain when it wished to do so. Pet. at 26 n.56, citing CAA §§165(d)(2)(D)(iii)-(iv). The absence of a plume impaction exemption in §123 must therefore be interpreted as a deliberate congressional choice to deny such treatment here.

b. *Nearby*—Petitioners' arguments concerning the statutory term "nearby" are premised on the false assertion that the D.C. Circuit "set aside EPA's definition of 'nearby terrain obstacles'". Pet. at 15. In reality the court set aside EPA's total *failure* to define that concept. While Section 123(c) defines GEP as the stack height necessary to prevent downwash created by "*nearby* structures or *nearby* terrain obstacles" (emphasis added), EPA's regulations refer only to downwash created by "structures, or terrain obstacles". 47 Fed. Reg. at 5868-69 (to be codified in 40 C.F.R. §51.1(ii)(3)). Moreover, the definition of "nearby" in EPA's regulations applies only to "structure[s]", not terrain obstacles. *Id.* at 5869 (to be codified in 40 C.F.R. §51.1(j)).

EPA's failure to implement the term "nearby terrain obstacles" violates the plain language of §123(c), as well as its legislative history. House Report at 93, U.S. Code Cong. & Ad. News at 1171, cited in Pet. App. at 13a-14a.

c. *Excessive Concentrations and GEP Formula*—With respect to both of these concepts, the D.C. Circuit properly remanded regulatory provisions that were patently irrational, unsupported by the administrative record, and contrary to the goals of §123.

1. The definition of "excessive concentrations" adopted by EPA

would permit a source located in a very clean area to raise its stack height credit, even if the downwash avoided would only increase pollutant concentrations by a very small amount that would be of no harm to anyone.

Pet. App. at 18a-19a. Noting that the increased stack height credit allowed by EPA's definition "will mean increased

emissions and longer transport of pollutants, both of which Congress has instructed the agency to minimize" (Pet. App. at 28a), the court remanded to EPA "with instructions to develop a standard directly responsive to the concern for health and welfare that motivated Congress to establish the downwash exception". *Id.* The court did not attempt to dictate the form such a standard would take.

2. EPA's regulations included a mathematical "GEP formula" designed to serve as an approximation of the stack height necessary to prevent downwash, eddies and wakes, 47 Fed. Reg. at 5868 col. 3 (to be codified in 40 C.F.R §51.1(ii)(2)), but improperly adopted a skewed policy concerning the correction of errors in this approximation. Under EPA's regulations the formula may be corrected only when it underestimates GEP, but never when it overestimates. The effect of this approach is to allow corrections that result in increased stack height credit and more pollution, 47 Fed. Reg. at 5865 col. 2, but to prohibit corrections that result in decreased stack height credit and less pollution. 46 Fed. Reg. at 49820 col. 3. Finding that "there is virtually no evidence in the record supporting a conclusion that the formulas err only in one direction" (Pet. App. at 45a), the D.C. Circuit concluded:

Rationality demands that if the inaccuracy is neutral,
the corrective device must be neutral.

Id. at 46a. Accordingly, the court remanded EPA's biased rule.

d. *Requirements on Remand*—In the preamble to its regulations EPA stated it would allow the states twenty-two months to implement the requirements of those regulations. Pet. App. at 66a-67a. The court correctly set aside this schedule as violative of §406(d)(2) of the Act, which requires states to complete their implementation within nine months. *Id.* at 66a-68a.

CONCLUSION

Review by this Court would result in a set of narrow decisions concerning a regulatory program of limited applic-

ability. Such decisions would uphold the D.C. Circuit, which correctly applied the standards for judicial review of agency action. For the reasons stated, the petition for a writ of certiorari should be denied.

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IN THE
Supreme Court of the United States

OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*,

Petitioners,

v.

SIERRA CLUB, *et al.*,

Respondents.

**RESPONSE OF KENNECOTT IN SUPPORT OF
PETITION FOR A WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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**RESPONSE OF KENNECOTT IN SUPPORT OF
PETITION FOR A WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

Kennecott¹ operates copper smelters in four western states—Arizona, Nevada, New Mexico and Utah. The regulations at issue in this case, which were invalidated by the court below, directly affect three of Kennecott's four smelters. For this reason, Kennecott intervened in the proceeding below, and files this Response pursuant to Supreme Court Rule 19.6.

Kennecott supports the Petition for a Writ of Certiorari filed by Alabama Power Co. and other electric utilities, and joins in

¹ Kennecott, formerly Kennecott Minerals Co., is an operating company of the Standard Oil Company of Ohio (Sohio). Subsidiaries and affiliates of Sohio include The British Petroleum Company, Ltd. (Parent), Atlas Supply Company, BP Alaska, Inc., Colonial Pipeline Company, Delaware Bay Transportation Company, Ferix Corporation, Inland Corporation, Iricon Agency Ltd., Laurel Pipeline Company, Miami Valley Corporation, Mid-Valley Pipeline Company, Ress Realty Company, Sohio/BP Trans Alaska Pipeline, Inc., West Texas Gulf Pipeline Company and Sohio Pipeline Company.

the arguments presented therein. In particular, Kennecott agrees that in rejecting certain of the stack height regulations, the court below impermissibly substituted its judgment for that of the Environmental Protection Agency (EPA). For Kennecott and other smelter companies, the result may be destruction of a compliance strategy that has been over a decade in the making at a cost of over a billion dollars.

The unique economic and technological problems facing the smelting industry in its quest for control of sulfur dioxide (SO₂) emissions under the Clean Air Act are well known, having been the subject of numerous cases in the courts of appeal and special statutory relief.² Prior to 1977, EPA encouraged smelters to use tall stacks, in conjunction with supplementary control systems (SCS), where other feasible control measures could not produce compliance with SO₂ emission requirements.³ In 1977, Congress enacted Section 119 of the Act (42 U.S.C. § 7419), which extends this policy through 1987 for smelters meeting an economic eligibility test.⁴ Beginning in 1988, all smelters must meet SO₂ emission limitations set according to Section 123 (42 U.S.C. § 7423), which forbids credit for SCS and stacks exceeding heights required by "good engineering practice" (GEP).

The copper smelting industry is now well on its way toward meeting this goal. Since 1970, the industry has reduced SO₂ emissions by 57 percent and by 1988 these emissions will be

² See 42 U.S.C. § 7419 (Supp. V 1981) (permitting issuance of nonferrous smelter orders containing extended compliance schedules); see, e.g., *Kennecott Copper Corp. v. Costle*, 572 F.2d 1349 (9th Cir. 1978) (Kennecott II); *Bunker Hill Co. v. EPA*, 572 F.2d 1286 (9th Cir. 1977); *Kennecott Copper Corp. v. Train*, 526 F.2d 1149 (9th Cir. 1975) (Kennecott I), cert. denied, 425 U.S. 395 (1976).

³ See 41 Fed. Reg. 7452 (July 18, 1976) (1976 stack height policy); 38 Fed. Reg. 25698, 25700 (Sept. 14, 1973) (1973 stack height policy); see also 40 Fed. Reg. 49364 (Oct. 22, 1975) (applying policy to Arizona smelters); 40 Fed. Reg. 19212 (May 2, 1975) (Kennecott New Mexico smelter); 40 Fed. Reg. 5511 (Feb. 6, 1975) (Kennecott Nevada smelter).

⁴ See *Kennecott Corp. v. EPA*, 684 F.2d 1007 (D.C. Cir. 1982).

reduced still further, a record unmatched by any other major source of SO_2 . This reduction has been achieved at a cost of over \$1.5 billion, which represents devotion of a larger percentage of available capital to clean air expenditures than that devoted by any other major industry. All four Kennecott smelters now meet ambient standards for SO_2 , and Kennecott's expenditures to reach this goal total approximately \$750 million in 1982 dollars. As Congress recognized in enacting Section 119, these expenditures have been made during a time of severe economic distress in the copper industry.⁵

In conjunction with these industry efforts, smelter states have spent over a decade developing acceptable smelter SO_2 emission limitations. These efforts have recently culminated in adoption by several states of emission limits based on the new "multi-point rollback" (MPR) method, an advanced modeling technique which has finally put an end to the search for feasible and effective smelter SO_2 emission limits. EPA has already approved smelter MPR regulations adopted by Arizona and New Mexico, and similar regulations adopted by Nevada and Utah are currently pending EPA approval.⁶ Upon EPA approval of the MPR regulation for Kennecott's Utah smelter, Kennecott has announced tentative plans to modernize related mining and processing facilities at a cost of over one billion dollars, which will produce still further environmental and operational benefits.⁷

The decision below jeopardizes this entire compliance strategy. The MPR regulations for Kennecott's Arizona, Nevada and Utah smelters depend on GEP demonstrations for tall

⁵ See H.R. Rep. No. 95-294, 95th Cong., 1st Sess. 61-63 (1977); see also S. Rep. No. 97-666, 97th Cong., 2d Sess. 19-21 (1982) (economic concerns remain in 1982).

⁶ See 48 Fed. Reg. 1717 (Jan. 14, 1983) (Arizona approval); 47 Fed. Reg. 19332 (May 5, 1982) (New Mexico approval); Nevada Administrative Code § 445.7657; Utah Air Conservation Regulations § 4.3.2.

⁷ EPA has recognized that Kennecott's Utah modernization plan would greatly reduce particulate emissions. See 49 Fed. Reg. 6460-61 (Feb. 21, 1984) (discussing Kennecott comments on applicable new source performance standards).

stacks originally built in compliance with EPA's smelter policy and necessary to mitigate the effects of nearby mountain ranges.⁸ The court's rejection of EPA's "plume impaction" provision, and its restrictive definition of "nearby" as applied to GEP demonstrations involving terrain obstacles, may render the MPR demonstrations invalid. This would waste over a decade in compliance efforts, would add untold millions to smelter compliance costs and would indefinitely prolong the current closure of Kennecott's Arizona and Nevada smelters. The Utah modernization project could be abandoned or indefinitely postponed and the smelter could be shut down, resulting in additional shrinkage of a vital domestic industry already operating well below its former production capacity.⁹

Such drastic consequences are in no way required by the Clean Air Act. In remanding EPA's regulation governing GEP demonstrations based on "nearby" terrain obstacles, the court below admitted that the regulation was rational and supported by the legislative history. *Sierra Club v. EPA*, 719 F.2d 436, 444-45 (D.C. Cir. 1983). Nevertheless, the court rejected the regulation based on speculation as to what Congress "may have" intended, admitting that "an element of arbitrariness" would result. 719 F.2d at 445. The court also relied on an alleged congressional intent to discourage utilities from locating in mountainous terrain (*id.*), a consideration obviously inapplicable to smelters which were located in the mountains early in this century to be near related mining and crushing facilities. This rationale also was used to invalidate EPA's plume impaction provision, though the court recognized that this would result in harsh discrimination against sources located in mountainous terrain. 719 F.2d at 453-55.

⁸ The Arizona regulation is based on GEP credit for the stack of a neighboring smelter with which Kennecott shares an airshed. See 48 Fed. Reg. 1719 (Jan. 14, 1983) (GEP demonstration for ASARCO smelter stack).

⁹ The decision below already has delayed the Utah modernization project by delaying EPA approval of the Utah MPR regulation, without which the project cannot proceed.

In short, the D.C. Circuit rejected EPA's interpretation of an ambiguous and highly technical statute that reached admittedly reasonable results, and substituted its own interpretation which produces results admittedly arbitrary and discriminatory. The consequences will likely include destruction of a smelter SO₂ compliance strategy that has been over a decade in development. Despite Kennecott's participation as an intervenor, the impact of the court's decision on the copper smelting industry is not even mentioned in the opinion below. And the court remains free to apply its convoluted canon of statutory construction to all Clean Air Act regulations of national importance, because the Act requires review of such regulations in the D.C. Circuit (see 42 U.S.C. § 7607(b)). For these reasons, as well as those advanced in the utilities' Petition, Kennecott urges this Court to grant *certiorari* and reverse the decision of the court of appeals.

Respectfully submitted,

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ALEXANDER L. STEVANS

CLERK

In the Supreme Court of the United States

OCTOBER TERM, 1983

ALABAMA POWER CO., ET AL., PETITIONERS

v.

SIERRA CLUB, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENT
IN OPPOSITION

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QUESTION PRESENTED

Whether the court of appeals erred in setting aside regulations promulgated by the Environmental Protection Agency under Section 123 of the Clean Air Act, 42 U.S.C. (Supp. V) 7423, governing the maximum amount of stack height a facility may use as a pollution control technique.

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**BRIEF FOR THE FEDERAL RESPONDENT
IN OPPOSITION**

OPINION BELOW

The opinion of the court of appeals (Pet. App. 1a-69a) is reported at 719 F.2d 436.

JURISDICTION

The judgment of the court of appeals was entered on October 11, 1983. A petition for rehearing was denied on December 13, 1983 (Pet. App. 70a-71a). The petition for a writ of certiorari was filed on February 28, 1984. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. This case involves a challenge to regulations promulgated by the Environmental Protection Agency (EPA) under Section 123 of the Clean Air Act, 42 U.S.C. (Supp. V) 7423, governing the maximum

amount of stack height that a facility may use as a pollution control technique. There are two basic methods by which a facility can reduce pollution emissions to meet applicable emission limitations. The first is to reduce its total emissions through the use of cleaner fuels or the installation of pollution control equipment. Alternatively, a source can simply increase the dispersion of its emissions in the atmosphere and thereby decrease localized pollution concentrations. This second method is known as a dispersion technique, and includes the use of "tall stacks."¹

Prior to 1970 there were no constraints on the use of stack height and other dispersion techniques. The 1970 Amendments to the Clean Air Act did not explicitly regulate the use of tall stacks. Congress directly addressed the use of dispersion techniques for the first time in the 1977 amendments to the Clean Air Act by enacting Section 123, 42 U.S.C. (Supp. V) 7423.² Under Section 123 a facility may not employ

¹ Other dispersion techniques include devices or processes that increase the temperature or velocity of emissions, thereby pushing them higher into the atmosphere. The court of appeals overturned EPA's regulatory definition of these techniques, but petitioners do not seek review of this aspect of the decision. Pet. App. 50a-57a.

² Congress also made it clear that an emission limitation requires reduction of "the quantity, rate, or concentration" of pollutants, not merely dispersion. Section 302(k), 42 U.S.C. (Supp. V) 7602(k).

Before 1977, the courts of appeals had construed Section 110(a)(2)(B) of the 1970 Act, 42 U.S.C. 1857c-5(a)(2)(B), to preclude the use of dispersion techniques unless other controls were "unachievable or infeasible." *Natural Resources Defense Council, Inc. v. EPA*, 489 F.2d 390, 410 (5th Cir. 1974), rev'd on other grounds *sub nom. Train v. Natural Resources Defense Council, Inc.*, 421 U.S. 60 (1975); see, e.g., *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16, 20-22 (6th Cir. 1975), cert. denied, 425 U.S. 934 (1976); *Kennecott Cop-*

a stack greater than "good engineering practice" (GEP) height, which is defined as follows:

[G]ood engineering practice [height] means * * * the height necessary to insure that emissions from the stack do not result in excessive concentrations of any air pollutant in the immediate vicinity of the source as a result of atmosphere downwash, eddies and wakes which may be created by the source itself, nearby structures or nearby terrain obstacles (as determined by the Administrator [of EPA]).

The Act as amended does not directly prohibit the construction of excessively tall stacks. Instead, it provides that the increased dispersion of pollutants created by such stacks may not be considered when setting an emission limitation for a source.³ As a result, an emission limitation must be sufficiently stringent to protect the national ambient air quality standards as though pollutants were emitted into the air at GEP stack height, even if actual stack height is greater. The Act thereby eliminates the incentive for construction of excessively tall stacks.

The statute does recognize, however, that stacks constructed to GEP height are necessary to avoid harmful local air pollution due to "downwash, eddies and wakes."⁴ Section 123(c) adopts the traditional

per Corp. v. Train, 526 F.2d 1149, 1154-1155 (9th Cir. 1975), cert. denied, 425 U.S. 935 (1976).

³ Section 123(a) states: "The degree of emission limitation required for control of any air pollutant under an applicable implementation plan under this subchapter shall not be affected in any manner by—(1) so much of the stack height of any source as exceeds good engineering practice (as determined under regulations promulgated by the Administrator), or (2) any other dispersion technique." 42 U.S.C. (Supp. V) 7423(a).

⁴ Downwash is caused by buildings or terrain features located upwind of a stack that can disrupt normal airflow,

estimate of GEP height—two and one half times the height of a nearby building or terrain feature—as the presumptive GEP stack height in most instances. 42 U.S.C. (Supp. V) 7423(c). A facility may obtain credit for additional stack height only if it demonstrates that such height is necessary to avoid “excessive” air pollution concentrations. These height limitations apply to all stacks “in existence” on December 31, 1970, the effective date of the 1970 amendments to the Act.⁶

2. Section 123 requires EPA to promulgate regulations defining GEP stack height and identifying other dispersion techniques. EPA first proposed regulations on January 12, 1979. 44 Fed. Reg. 2608. At the request of several commenters, EPA held a public hearing and subsequently provided three additional comment periods. 44 Fed. Reg. 15735 (1979); 44 Fed. Reg. 24329 (1979); 44 Fed. Reg. 40359 (1979). On June 24, 1980 EPA issued an interim stack height policy addressing existing stacks (45 Fed. Reg. 42279) which it subsequently withdrew. 46 Fed. Reg. 28650 (1981). EPA repropoed its regulation on October 7, 1981, and published the final regulations at issue here on February 8, 1982. 47 Fed. Reg. 5864.

The final rules, so far as is relevant here, establish two basic methods of determining GEP stack height.

creating a turbulent “wake” of air filled with circulating eddies. If a stack is located within this wake, the turbulence can pull its emission plume down to ground level, creating localized episodes of high pollutant concentrations.

⁶ There are two “grandfather” clauses in the Act that exempt certain stacks designed or constructed prior to 1975. Sections 123(c) and 169(4), 42 U.S.C. (Supp. V) 7423(c) and 7479(4).

A source may rely on a general formula⁶ or, if it desires additional height, it may submit a physical demonstration of GEP height using fluid modeling techniques or field studies.⁷ The formula may be applied only to buildings, not terrain features,⁸ and only to "nearby" buildings—defined by the regulation as those within one-half mile of a stack. Those sources that wish to assess the effects of terrain features, or to obtain credit for a stack taller than formula height, must employ a physical demonstration. The demonstration must show that downwash, eddies, or wakes will cause "excessive" pollution concentrations, which EPA defined as an increase of 40% or more above prevailing concentrations.

Finally, a physical demonstration may consider not only pollution resulting from downwash, eddies and wakes, but also increased concentrations from a phenomenon known as "plume impaction," the accumulation of pollutants that occurs when a source's emissions run into a hill or mountainside. This aspect of the regulations allows a source located in mountainous terrain to lift its emissions plume over the mountains through use of a taller stack. Further-

⁶ The general formula uses the dimensions of a source to define GEP height as $1 + 1.5L$, where "L" equals the height or width of the building, whichever is greater. Sources constructed prior to EPA's 1979 proposal may use the traditional formula of two and one half times the height of a nearby building.

⁷ A fluid^{model} typically uses a small-scale model of an industrial facility placed in a wind tunnel. An investigator releases tracer gas from the model stack and then measures the effects on the stack's emission plume caused by surrounding buildings and terrain features. A field study relies on actual observations and measurements made at the facility.

⁸ Terrain features are often irregular in shape, and application of the formula is therefore impractical.

more, the regulations place no limitation on the obstacles that may be considered "nearby" in a demonstration, so long as the demonstration predicts excessive concentrations.

3. Respondents Sierra Club, the Natural Resources Defense Council, and others filed petitions for review of each significant provision in EPA's regulations. Petitioners here, which are utility companies, intervened in support of EPA's regulation. The court of appeals set aside significant portions of the agency's regulations, concluding that they failed to serve Congress's "predominant purpose" of reducing air pollution emissions (Pet. App. 18a), and remanded those aspects of the case to the agency. The court of appeals relied on the legislative history and, in particular, on the Conference Report accompanying the 1977 amendments, which states that "the Administrator's rule [on GEP height] should give 'credit' *only* for the height needed to avoid [downwash, eddies and wakes]." 123 Cong. Rec. 27071 (1977) (emphasis added). The court reasoned that Congress had thereby directed EPA to go beyond traditional engineering practice and to define GEP height so as to identify the minimum stack height needed to avoid localized pollution problems. See Pet. App. 10a, 20a-23a. The court also cited portions of the House Report discussing the failure of dispersion techniques, and tall stacks in particular, to reduce total emissions. See *id.* at 8a, 39a, citing H.R. Rep. 95-294, 95th Cong., 1st Sess. 84-86 (1977) (hereinafter House Report). The House Report noted that long-range dispersion of pollutants from tall stacks has been linked to "acid rain," and the court viewed this discussion as additional support for a strict interpretation of Section 123 (Pet. App. 8a, 39a).

The court accordingly rejected the EPA's interpretation of several key terms in the definition

of GEP stack height: "excessive" concentrations, "nearby" with respect to physical demonstrations, and the "plume impaction" rule. It also criticized EPA's decision to rely on generalized formulas in many instances, since it was not convinced that the formulas calculated the minimum stack height necessary to protect public health (see Pet. App. 44a). The court of appeals did uphold certain aspects of the regulations, including EPA's decision not to regulate flares—"pipe[s] used * * * to vent combustible gases by burning them at the top" (Pet. App. 47a-48a)—as stacks (*id.* at 47a-49a). The court left largely intact the "grandfather" provisions exempting older sources from the more stringent requirements of the final regulations (*id.* at 57a-66a), and it deferred to EPA's technical judgment that its general stack height formula adequately considered "plume rise," the natural buoyancy of emissions that causes them to rise above the height of a stack (*id.* at 31a-39a).

ARGUMENT

The decision below does not conflict with any decision of this Court or any other court. Furthermore, although we believe EPA's interpretation of various statutory terms in Section 123 was reasonable and should have been sustained by the court of appeals, the court's invalidation of the agency's interpretation does not present any legal issue of sufficient significance to warrant review by this Court.

1. We agree with petitioners (*e.g.*, Pet. 18-20) that courts should accord special weight to an agency's interpretation of technical terms in a statute it is charged with administering; it is settled law that a court may not disturb an agency's reasonable interpretation of a statute even when another view

may be equally reasonable. See, e.g., *INS v. Wang*, 450 U.S. 139, 144 (1981). But in this case the court of appeals did not clearly err in the legal standard of review it applied to EPA's interpretation of the Clean Air Act. Rather, the court applied an arguably correct legal standard but resolved most of the questions of statutory construction against the agency. Although we believe that the court of appeals could have (and should have) accepted EPA's definition of key technical terms in Section 123 of the Act, its rejection of EPA's interpretation stemmed not from its failure to accord the proper degree of deference, but from its conclusion that the legislative history and objectives of Section 123 compelled a different outcome.

2. a. While we, like petitioners, disagree with the court of appeals' construction of Section 123 in several respects, we do not believe that the court's errors were egregious or otherwise warrant this Court's review. Petitioners focus particular attention on the court of appeals' reversal of the "plume impaction" rule (see Pet. 22-26). As we noted, this rule provided that a source may obtain a greater GEP stack height based on a physical demonstration that additional height is necessary to raise emissions above a hill or mountain. In the absence of such additional stack height, a source would be required to control emissions in some other fashion, such as pollution control equipment.

The statute is silent on the question of plume impaction; EPA adopted the plume impaction rule because it believed that plume impaction is within the general category of air pollution problems that Congress was attempting to remedy in Section 123. In addition, EPA sought to avoid imposing

significantly more stringent emission controls on sources located in hilly terrain, a result that would discriminate on the basis of geographical location (see Pet. App. 38a). Petitioner asserts, as EPA did in the court of appeals, that Congress's failure to provide an explicit remedy for plume impaction was inadvertent and that EPA must be given the authority to supplement the regulatory scheme in this respect. The court of appeals itself noted that "there is much to commend [the plume impaction rule] from a policy perspective" (Pet. App. 38a), but it declined to allow EPA to augment the statutory scheme because there is legislative history suggesting that Congress may have been aware of the problem of plume impaction and that Congress's failure to act may have been deliberate (*id.* at 35a-36a). While we continue to believe that the legislative history is ambiguous on this issue and that EPA should have been allowed to fill the gap created by Congress, we cannot say that the court of appeals' contrary ruling was so clearly erroneous as to merit correction by this Court.⁹

b. Petitioners also contend (see Pet. 14-15, 18) that the court of appeals erred in invalidating the regulatory provisions defining "excessive" local pollution concentrations and GEP stack height in general.

As we noted, a facility may establish that a certain stack height is GEP height by showing through physical demonstrations that the height is necessary to avoid "excessive" local concentrations of pollutants. EPA's regulations define excessive concentrations as any increase of 40% or more above prevailing concentrations, regardless of how clean or dirty the ambient

⁹ We disagree with petitioners' suggestion (Pet. 24) that the court based its decision on erroneous factual assumptions. Whatever the merits of the court's holding, it is founded on a legal, not factual, analysis of the regulations.

air may be in a particular locality. The agency derived this definition from traditional engineering practice.

The court of appeals ruled, however, that an increase in local air pollution is not excessive and does not justify additional stack height unless it represents a threat to public health or welfare (Pet. App. 20a-24a). On this ground, the court also directed EPA to consider whether automatic application of the $1+1.5L$ formula (see pages 4-5 and note 6, *supra*) in all circumstances is consistent with its ruling on excessive concentrations (Pet. App. 44a). The court based this ruling on its conclusion that Congress's "predominant purpose" was not the codification of historical practice but the reduction of total air pollution. The court relied specifically on the House Report, which does provide some support for this view. See Pet. App. 21a (citing House Report 93).

This aspect of the court of appeals' opinion is certainly questionable, because the statute itself and other legislative history lend support to EPA's reliance on traditional engineering practice.¹⁰ Because the legislative history is ambiguous and EPA's interpretation of the statute is reasonable, the court of appeals should have upheld the agency. Nevertheless, we believe review by this Court is not necessary at this time because EPA has flexibility to explore other regulatory approaches. In setting aside the agency's action, the court "[did] not condemn the historical approach EPA has taken," and left open the opportu-

¹⁰ Section 123 itself arguably adopts the traditional "two and a half times" formula as a good estimate of the GEP height, and the House Report "affirms" that formula. House Report 93. The formula specified in the regulations is merely a refinement of this traditional formula.

nity for EPA to establish a formula for a stack height that is linked to public health hazards (Pet. App. 28a, 44a-45a). EPA may therefore adopt a generalized stack height formula on remand that will ease the regulatory burdens created by case-by-case demonstrations of GEP stack height.

c. Finally, petitioners object (Pet. 18) to the court of appeals' partial remand of EPA's definition of "nearby" obstacles. The House Report (at 93) states that Congress intended to eliminate consideration of downwash caused by objects more than "one-fourth to one-half mile" away. The court upheld EPA's one-half mile maximum for application of the general GEP formula, but directed the agency to adopt the same maximum for fluid models and field studies. EPA had placed no limitation on such demonstrations, reasoning that these more sophisticated techniques—which closely reproduce real-world conditions—obviate the need for an arbitrary distance limitation.

The lower court noted that "[w]hile [EPA's] approach might make a good deal of sense," Section 123(c) unequivocally applies the "nearby" limitation to both the formulas and physical demonstrations (Pet. App. 15a-16a). The court concluded that if EPA's approach were upheld, the term "nearby" would "effectively be read out of the statute" with regard to physical demonstrations of GEP height (*id.* at 15a n.3). The opinion also relied upon legislative history clarifying Congress's intent that the "nearby" limitation be strictly construed (*id.* at 13a-14a). In light of the statutory language and legislative history supporting the court's analysis, we cannot say that this aspect of the decision is an unreasonable application of this statutory provision. Nor does the court's

decision prevent EPA from devising an appropriate regulatory approach, because although the agency must adopt a distance limitation applicable to physical demonstrations, it retains considerable discretion in deciding precisely how to apply that limitation.

In sum, although we believe that certain aspects of the court of appeals' decision are incorrect, the court's interpretation of the statute is not unreasonable in all respects, and it left the EPA considerable discretion in implementing the court's mandate. Moreover, the court's narrow analysis of Section 123 is unlikely to have great precedential significance. We accordingly believe that there is no sufficient reason for this Court to grant review.

CONCLUSION

The petition for a writ of certiorari should be denied.

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REPLY BRIEF FOR PETITIONERS
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ALABAMA POWER CO., *ET AL.*

ARGUMENT

In this case, Federal Respondent agrees with Petitioners that the lower court erred in substituting its judgment on complex, technical issues for that of the Environmental Protection Agency (EPA or Agency).¹ Nevertheless, both Federal Respondent and Respondents Sierra Club, *et al.* (hereinafter Sierra Club) oppose cer-

¹ See Brief of Federal Respondent 8. Indeed, there apparently was serious discussion within the government as to whether to seek certiorari in this case, leading the government to request an extension of time "to file certiorari to consider those recommendations [of interested government agencies concerning certiorari], to determine whether to seek certiorari, and, if we decide to do so, to prepare and print a petition." Application for An Extension of Time in Which to File a Petition For a Writ of Certiorari on Behalf of EPA 3 (March 1984).

tiorari. For the reasons discussed below, respondents' arguments in opposition to certiorari are without merit.

I. CERTIORARI SHOULD BE GRANTED TO ESTABLISH THE STANDARD OF REVIEW APPLICABLE TO AGENCY INTERPRETATIONS OF LAW

Under the Clean Air Act,² the D.C. Circuit has exclusive jurisdiction to review EPA actions of national scope and effect. CAA § 307(b) (1). Such actions include EPA rules, such as those promulgated by EPA under § 123 of the Act, which govern the requirements states must include in their implementation plans mandated by § 110 of the Act. Once the D.C. Circuit has spoken, no court, save this Court on review of a D.C. Circuit opinion, can consider the correctness of the D.C. Circuit's pronouncement on the validity of such rules.³

In this setting, the standard of review that the D.C. Circuit will apply must be known in order to enable rule-making participants to identify the issues that can legitimately be presented on appeal. If judicial review rights of those affected by EPA's rules are to be forever foreclosed after expiration of the 60-day review period under § 307(b) of the Act, fundamental fairness dictates that affected parties know the ground rules that will be applied in determining the validity of EPA's actions.

Contrary to Sierra Club's assertions, Sierra Club Brief 9-10, 12, the ground rules governing judicial review of agency interpretations of law are not fixed in the D.C. Circuit and were not properly applied by the court below. In each case that comes before the court, the D.C. Cir-

² The Clean Air Act, 42 U.S.C. § 7401, *et seq.* (Supp. V 1981) (hereinafter referred to as "CAA" or "the Act"). (For convenience, all further citations will be to the Act. Parallel citations to the U.S. Code are given in the Table of Authorities.)

³ Clean Air Act § 307(b) (1), (2); *see* Adamo Wrecking Co. v. United States, 436 U.S. 275, 289 (1978) (Powell, J., concurring); Union Electric Co. v. EPA, 427 U.S. 246, 270-71 (1976) (Powell, J., concurring).

cuit chooses between a "deference" standard and a "*de novo* review" standard in judging agency interpretations of statutory terms. Petition for Certiorari of Alabama Power Co., *et al.* 16-17 (hereinafter "Pet."). For example, while the lower court sustained Sierra Club's challenge to EPA's interpretation of the technical statutory term "good engineering practice" (GEP) in this case, in another recent case, *Motor Vehicle Manufacturers Ass'n v. Ruckelshaus*, 719 F.2d 1159 (D.C. Cir. 1983), the lower court rejected an industry challenge and deferred to EPA's similar interpretation of GEP under another provision of the Act.

In the instant case, EPA interpreted GEP to refer to what engineers had done in the past. While this interpretation of GEP found support in the plain meaning of the statute and its legislative history, it was nevertheless rejected by the court.⁴ By contrast, in the other recent decision, the D.C. Circuit rejected a challenge by industrial petitioners to EPA's interpretation of "good engineering practices" under § 207(b) of the Act. In affirming EPA's interpretation in that case, the court found that it was properly based upon "real world" experience and "the reasonable capability of personnel and equipment"—i.e., actual engineering practice.⁵ According to the lower court, the "Administrator's resolution of thorny technical problems [in defining "GEP"] . . . represents a reasonable accommodation of conflicting interests entrusted to his care. In this respect . . . 'a reviewing court must be at its most deferential.'"⁶ In sum, faced with consistent Agency interpretations of virtually identical statutory language, the D.C. Circuit applied differ-

⁴ See Pet. 20-22; *Sierra Club v. EPA*, 719 F.2d 436, 457 (D.C. Cir. 1983), Appendix to Petition for Certiorari at 42a-43a (hereinafter "App.").

⁵ See *Motor Vehicle Manufacturers Ass'n*, 719 F.2d at 1167; 45 Fed. Reg. 34802, 34812 (1980).

⁶ *Motor Vehicle Manufacturers Ass'n*, 719 F.2d at 1167 (citation omitted).

ent standards of review to produce dramatically different results.

While Federal Respondent, like Petitioners, disagrees with the lower court's substitution of its interpretation of technical terms such as "GEP" and "excessive concentrations" for that of EPA,⁷ Federal Respondent nonetheless states that the lower court's "rejection of EPA's interpretation stemmed *not* from its failure to accord the proper degree of deference, but from its conclusion that the legislative history and objectives of Section 123 compelled a different outcome." Brief of Federal Respondent 8. This statement makes little sense, in light of the government's assertion that "the court of appeals could have (*and should have*) accepted EPA's definition of key technical terms in Section 123." *Id.* (emphasis added). If the lower court's independent consideration of ambiguous legislative history and statutory objectives, in the face of admittedly reasonable Agency conclusions, does not constitute a failure to give deference (as the government suggests), this Court should take this opportunity to clar-

⁷ Federal Respondent argues that the lower court's holdings on "GEP stack height credit" and "excessive concentrations" are "questionable, because the statute itself and other legislative history lend support to EPA's reliance on traditional engineering practice." Furthermore, Federal Respondent argues, as does Petitioner, that "Section 123 itself arguably adopts the traditional 'two and a half times' formula as a good estimate of the GEP height, and the House Report 'affirms' that formula." Brief of Federal Respondent 10 & n.10.

Curiously, Sierra Club suggests that Congress rejected earlier EPA guidelines in the 1977 Amendments to the Clean Air Act. See Brief of Sierra Club 3. This statement is seriously misleading. As the lower court recognized, Congress adopted in 1977 the essence of EPA's earlier definition of "GEP." See *Sierra Club v. EPA*, 719 F.2d at 441, App. 8a. Congress only rejected that portion of EPA's earlier guidance that exempted sources from this GEP rule if they used "best available control technology" or if continuous controls were infeasible. *Id.* These aspects of the earlier guidance were not relied upon by EPA in the § 123 rulemaking and are not at issue in this case.

ify its prior holdings that appellate courts must accept "reasonable" interpretations of the Clean Air Act.⁸

Given the confusion demonstrated by Federal Respondent as to the appropriate standard of judicial review and given the number of recent D.C. Circuit cases involving EPA and other agency interpretations of law which have required review by this Court,⁹ review of this case is

⁸ See *Union Electric Co.*, 427 U.S. at 256; *Train v. NRDC*, 421 U.S. 60, 75 (1975).

⁹ The D.C. Circuit's shifting standard of review has led this Court to review and to reverse the D.C. Circuit in numerous cases over the past few years where the degree of deference to an agency's interpretation was in dispute. See *Morrison-Knudsen Construction Co. v. Director, OWCP*, 103 S.Ct. 2045 (1983) (OWCP interpretation of the term "wages" under the Longshoreman and Harbor Workers' Compensation Act); *FEC v. National Right to Work Committee*, 459 U.S. 197 (1982) (FEC interpretation of the term "member" of a corporation under the Federal Election Campaign Act (FECA)); *FEC v. Democratic Senatorial Campaign Committee*, 454 U.S. 27 (1981) (FEC interpretation of FECA language concerning agency relationships); *FCC v. WNCN Listeners Guild*, 450 U.S. 582 (1981) (FCC implementation of the term "public interest" under the Communications Act); *Board of Governors of the Federal Reserve System v. Investment Company Institute*, 450 U.S. 46 (1981) (Federal Reserve Board definition of "closely related to banking" under the Bank Holding Company Act); *Andrus v. Sierra Club*, 442 U.S. 347 (1979) (CEQ interpretation of NEPA language); *NLRB v. Local Union No. 103, Int'l Ass'n of Iron Workers*, 434 U.S. 335 (1978) (NLRB interpretation of term "unfair labor practice" under the NLRA). See also *Chevron U.S.A. Inc. v. NRDC*, cert. granted, 103 S.Ct. 2427 (May 31, 1983) (No. 82-1005 and consolidated cases) (certiorari granted to review D.C. Circuit's rejection of EPA interpretation of the term "source" under the nonattainment provisions of the Clean Air Act.).

Sierra Club argues that this Court's denial of petitions for certiorari in the mid-1970s in cases dealing with the use of "dispersion techniques" under the 1970 Clean Air Act should lead it to deny certiorari here. See Brief of Sierra Club 9. To the contrary, the courts in those cases deferred to EPA's implementation of the Clean Air Act's restrictions on the use of dispersion techniques, rejecting challenges to EPA's interpretation of the Act. See *Big Rivers Electric Corp. v. EPA*, 523 F.2d 16 (6th Cir. 1975), cert. denied, 425 U.S. 934 (1976); *Kennecott Copper Corp. v. Train*,

necessary to give the lower court and those that must appear before the D.C. Circuit much needed guidance on the scope of its review powers. As in *Vermont Yankee v. NRDC*, 435 U.S. 519 (1978) (where the Department of Justice also opposed certiorari), this case provides an appropriate opportunity for this Court to speak out on an important question of administrative law. Through this case, the Court can establish a controlling precedent that will put an end to the D.C. Circuit's *ad hoc* approach to determining what standard it will use to review agency interpretations of law under the Clean Air Act and similar statutes.

II. CERTIORARI IS NECESSARY TO ESTABLISH THAT EPA, IN THE FACE OF CONGRESSIONAL SILENCE, MAY ADOPT RULES THAT AVOID ABSURD RESULTS

Federal Respondent, like Petitioners, disagrees with the lower court's decision on plume impaction and contends that "EPA should have been allowed to fill the gap created by Congress." Brief of Federal Respondent 9. Sierra Club, by contrast, argues that "[t]he absence of a [specific] plume impaction exemption in § 123 must . . . be interpreted as a deliberate congressional choice to deny such treatment here." Brief of Sierra Club 13. The lower court's decision therefore presents a major issue of administrative law, involving the authority of a federal agency to interpret its enabling statute in a manner which avoids absurd results that were clearly never con-

526 F.2d 1149 (9th Cir. 1975), *cert. denied*, 425 U.S. 935 (1976); *see also* 44 U.S.L.W. 3449 (Feb. 2, 1976); 44 U.S.L.W. 3374 (Dec. 23, 1975); *cf.* *NRDC v. EPA*, 529 F.2d 755, 760 (5th Cir. 1976) (court of appeals approved EPA's 2.5 times source height GEP rule in the face of NRDC's challenge). Those cases therefore provide no support for denial of certiorari here since, in this case, the court of appeals refused to defer to EPA's interpretation of the Act, requiring a redirection of the § 110 state air programs. Whenever asked to review a case rejecting EPA's construction of the Act and requiring such redirection, this Court has granted the petition. *See* Pet. 2-3.

templated by Congress in enacting the provision.¹⁰ Certiorari is needed to establish that, contrary to Sierra Club's contention, congressional silence on "plume impaction" should not be construed "as a deliberate congressional choice to deny such treatment" in these rules. Brief of Sierra Club 13; *see* Pet. 22-26.

III. THE POTENTIAL SOCIAL AND ECONOMIC IMPACTS OF THE D.C. CIRCUIT'S DECISION CALL FOR REVIEW BY THIS COURT

Federal Respondent does not dispute the potentially serious social and economic impacts that could result from the D.C. Circuit's decision. To the contrary, the Solicitor General's motion for enlargement of time to consider EPA's recommendation on certiorari, *see supra* note 1, and recent EPA statements concerning interim implementation of § 123¹¹ reflect the seriousness of the lower

¹⁰ Pet. 22-26. As Appendix A to this brief (hereinafter "Br. App. A") shows, over 40 states have very high terrain features within their borders. To suggest, as the lower court did, that Congress was "indifferent" to "harsh" discrimination against economic development in rugged terrain areas is to impute a fundamentally irrational intent on the part of the vast majority in Congress. Such an interpretation would be inconsistent with the law of this Court. *See* Pet. 25 & n.55.

¹¹ EPA explains in an interim policy statement issued in May 1984 that, since the lower court has set aside significant portions of the final § 123 rules,

[the Agency will try] to avoid actions that may need to be retracted later . . . [including action on] specific emission limitations . . . and requests to redesignate areas to attainment . . .

[Current Developments] ENV'T REP. (BNA) 85 (May 18, 1984). Moreover, EPA states that actions already taken will have to be reviewed and may require revision as a result of any remand proceeding. *Id.*

The need to conduct numerous, time-consuming individual plant reviews and to reassess area classifications are the types of serious impacts that led Federal Respondent to seek certiorari in a recent case involving the nonattainment provisions of the Clean Air Act. *See* Petition for Certiorari of EPA at 23-24, EPA v. NRDC (No. 82-1591) (consolidated with Chevron U.S.A. Inc. v. NRDC (No. 82-1005)). Moreover, while that case could have required action in

court's decision to the administration of the Act. Sierra Club, on the other hand, attempts to discount the potential impacts of the lower court's decision. Sierra Club thus observes that "[t]he few facilities with stacks above 65 meters consist almost exclusively of 148 power plants and four copper smelters." Brief of Sierra Club 6-7 (emphasis added).

The "minimal impact" assertions of Sierra Club do not withstand analysis. The 148 power plants referred to by Sierra Club constitute 28% of the fossil fuel-fired electric generation capacity in this nation, serving potentially more than 70 million customers. These plants are located in 41 states, *see* Br. App. B; many of them are located in areas of rugged terrain that will be especially severely affected by the lower court's decision, *see* Br. App. A; and still others are located in industrial areas where false stack height assumptions will affect neighboring sources and industrial growth. *See* Pet. 27. Finally, the lower court's mandate will affect future economic development in any area where a new power plant or other major industrial facility attempts to locate.¹²

The contention of Sierra Club that this case is of little practical consequence is also belied by their own statements in the administrative proceedings in this case. At an EPA public hearing held on December 19, 1983 to discuss the implications of the lower court's decision, for example, a representative of respondent NRDC testified that "[i]n remanding [the GEP rule], the court asked

potentially 31 states, this case could require implementation plan revisions in at least 41 states. *See* Appendix B to this brief (hereinafter "Br. App. B"). It is thus understandable that Federal Respondent has not disputed the practical significance of this case.

¹² Pet. 27 n.59 & accompanying text. The potentially serious, adverse impacts of the lower court's decision on other industries are discussed in the briefs that have been filed before this Court by representatives of the smelter industry, the coal industry, the paper industry, and others. It should be noted that Sierra Club refused to consent to the filing of briefs explaining the potential effects of the lower court's decision on other industries.

EPA to consider whether the use of the formula could *ever* be justified." Transcript of Public Hearing Regarding GEP Stack Height Regulations 34 (emphasis added). Further, NRDC testified that abandonment of the GEP formula could require case-by-case examination of "429 stacks over the *de minimis* height." *Id.* at 34-35.

Finally, Federal Respondent suggests that, with respect to the GEP formula, the lower court has "left the EPA considerable discretion in implementing the court's mandate" on remand. Brief of Federal Respondent 12. In light of the errors in the lower court's decision, the potentially significant impacts that could flow from these errors, and the position of NRDC before EPA that the Agency has *no* flexibility on remand under the lower court's decision, this general statement is not reassuring. At most, it holds open the promise of further litigation in the D.C. Circuit, creating further uncertainty for the states and regulated industries.

In sum, review by this Court is justified by the practical importance of this case and the need to settle the law governing this important aspect of the § 110 state-federal air quality programs.

CONCLUSION

For the reasons discussed in the Petition for Certiorari and those additional reasons presented above, this Court should grant certiorari and reverse the decision of the D.C. Circuit. Further, as described in the accompanying Motion to Defer Decision on this Petition, another Clean Air Act case that is currently before this Court for decision raises standard of review issues of a nature similar to those presented in this case. *See Chevron U.S.A. Inc. v. NRDC* (No. 82-1005 and consolidated cases). Since resolution of that case may have a direct bearing on the Court's decision on this Petition for Certiorari, Petitioners respectfully request that action on this

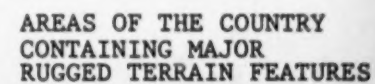
petition be withheld pending a decision by this Court in *Chevron U.S.A. Inc. v. NRDC*, and the filing of a supplemental brief by Petitioners on the significance of that decision.

Respectfully submitted,

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June 7, 1984

APPENDICES





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MOTION FILED
MAY 29 1984

No. 83-1429

IN THE
SUPREME COURT OF THE UNITED STATES

October Term, 1983

ALABAMA POWER Co., *et al.*,

Petitioners,

v.

SIERRA CLUB, *et al.*,

Respondents.

ON PETITION FOR A WRIT OF
CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT

MOTION FOR LEAVE TO FILE AND BRIEF OF
AMICI CURIAE ARIZONA ELECTRIC POWER
COOPERATIVE, INC., *ET AL.*, IN SUPPORT
OF THE PETITION FOR WRIT OF
CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE DISTRICT OF
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MOTION FOR LEAVE TO FILE AMICI CURIAE BRIEF

Arizona Electric Power Cooperative, Inc., Arizona Power Authority, Arizona Public Service Company, Colorado-Ute Electric Association, Inc., El Paso Electric Company, Nevada Power Company, Pacific Power & Light Company, Platte River Power Authority, Public Service Company of Colorado, Public Service Company of New Mexico, San Diego Gas & Electric Company, and Sierra Pacific Power Company hereby move for leave to file a Brief of Amici Curiae in support of the petitioners in this case. The proposed brief accompanies this motion. The amici sought and obtained the consent of petitioners Alabama Power Co., *et al.*, respondents Kennecott, American Petroleum Institute, Tennessee Valley Authority, and the Solicitor General of the United States on behalf of the respondent Environmental Protection Agency. However, counsel for the respondents Sierra Club, Natural Resources Defense Council, the Commonwealths of Pennsylvania and Massachusetts and the states of New York, New Hampshire, Rhode Island and Vermont have withheld their consent.

Consent to the filing of this brief by amici City of Anaheim, City of Burbank and City of Glendale, political subdivisions of the State of California, and City of Colorado Springs, a political subdivision of the State of Colorado, is not necessary under Rule 36.4, Rules of the Supreme Court of the United States, since they are political subdivisions of the states of California and Colorado, respectively, and this brief is sponsored by their authorized law officers. See proposed brief at 9.

These amici are interested in this case because they are affected by the Environmental Protection Agency regulations implementing Section 123 of the Clean Air Act which were largely invalidated by the court below. For a more detailed statement, see the following brief at 2-3. The amici believe that a discussion of the effect of the lower court's decision in the Western states, where the fossil fuel-fired

electric generating facilities owned, operated and managed by these amici are located, will assist this Court in the proper resolution of whether the petition for the writ of certiorari should be granted. If for any reason this motion is denied, we ask that this Court accept for filing the brief which follows on behalf of the four political subdivisions of the states of California and Colorado which need not seek leave to file the brief under Rule 36.

May 29, 1984.

Respectfully submitted,
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COOPERATIVE, INC., *ET AL.*,
IN SUPPORT OF THE PETITION
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INTERESTS OF THE AMICI CURIAE

Arizona Electric Power Cooperative, Inc., Arizona Public Service Company, City of Anaheim Public Utilities Department, City of Burbank Public Service Department, City of Colorado Springs Department of Public Utilities, City of Glendale Public Service Department, Colorado-Ute Electric

Association, Inc., El Paso Electric Company, Nevada Power Company, Pacific Power & Light Company, Platte River Power Authority, Public Service Company of Colorado, Public Service Company of New Mexico, San Diego Gas & Electric Company, and Sierra Pacific Power Company own, operate and manage fossil fuel-fired electric generating facilities in the states of Arizona, California, Colorado, New Mexico, Nevada, Texas and Utah. Arizona Power Authority distributes electricity generated by some of those facilities. These amici curiae are directly affected by the regulations at issue in this case, which were, in large measure, invalidated by the Court of Appeals for the District of Columbia Circuit.

In contrast to 64 of 67 of the individual utility petitioners,¹ all of the generating facilities of these amici, many of which burn low sulfur Western coal, are located in seven Western states renowned for their mountainous topography. Many of these generating facilities were built in remote areas of complex, elevated terrain. To prevent harsh economic discrimination against such facilities, in favor of their identical flatland counterparts, through an overly rigid and arbitrary application of Section 123 of the Clean Air Act, the Environmental Protection Agency (EPA) specially tailored two of the regulations implementing this Section for facilities located in mountainous areas.² These provisions, both of which were invalidated by the court below, would

¹ The petitioners Salt River Project Agricultural Improvement and Power District, Southern California Edison Company and Tucson Electric Power Company have interests in generating facilities in Arizona, California, Nevada and New Mexico.

² The first of these provisions permits additional stack height credit in calculating a source's emissions limits when its "modeled" plume theoretically creates excessive concentrations of pollutants by hitting downwind hills and mountains. See 47 Fed. Reg. 5864, 5866-67, 5869 (1982); Pet. App. at 90a-94a, 100a. The second provision involves the definition of the statutory term "nearby terrain obstacles" which cause excessive concentrations of pollutants as a result of atmospheric downwash, wakes or eddies. See 47 Fed. Reg. at 5865, 5868-69; Pet. App. at 86a, 100a.

have equalized the emissions limits for identical facilities without regard to whether the facilities were located in mountainous or flat terrain. As a result of the court's rejection of these two rules, however, some of the generating facilities of these amici, which are located in mountainous or hilly areas, now may be subjected to emissions limits *ten times more stringent* than those for identical facilities located in flat regions. The amici submit that the petition for the writ of certiorari filed by Alabama Power Company and the other electric utilities should be granted to rectify the discriminatory impact sanctioned by the lower court's opinion.

ARGUMENT

I. Introduction

Section 123 of the Clean Air Act³ requires the states to use good engineering practice (GEP) stack height assumptions when establishing emissions limitations under Section 110 of the Act.⁴ Section 123 grants the Administrator of EPA discretion to define GEP stack height, based upon two statutory criteria. First, the statute provides that GEP height is to be the height necessary *to insure* the prevention of excessive concentrations of emissions in the vicinity of the source due to downwash, wakes and eddies created by the source, nearby structures or nearby terrain obstacles as determined by the Administrator. Second, GEP is not to exceed two and one-half times the height of the source unless the source demonstrates, to the Administrator's satisfaction, that a greater height is GEP.

The Administrator exercised that discretion on February 8, 1982 when he issued final regulations implementing Section 123.⁵ On October 11, 1983, the Court of Appeals for the District of Columbia Circuit rejected the Administrator's exercise of discretion under Section 123 and

³ 42 U.S.C. § 7423 (Supp. V 1981).

⁴ 42 U.S.C. § 7410 (Supp. V 1981).

⁵ See 47 Fed. Reg. 5864, *et seq.* (1982); Pet. App. 80a-102a.

invalidated virtually every significant portion of that rulemaking.⁶

These amici agree with petitioners and respondent Kennecott that the court below impermissibly substituted its judgment for that of the Administrator when it set aside these regulations. Moreover, the court's rejection of the plume impaction credit and the Agency's definition of "near-by terrain obstacles" have particular significance to these amici since their generating facilities are located in Western states where mountainous topography is frequently encountered.

II. THE PLUME IMPACTION CREDIT IS NECESSARY TO AVOID HARSH DISCRIMINATION AGAINST SOURCES LOCATED IN MOUNTAINOUS AREAS.

Plume impaction occurs when a plume of exhaust gases emitted from a stack hits a higher hill or mountain downwind from the stack. Under stable atmospheric conditions, the plume can hit the mountain before it has dispersed, causing high concentrations of pollutants on the mountain-side.⁷ In reality this impaction does not usually occur because the source's stacks are physically higher than these nearby areas of elevated terrain. In "modeling" plume impaction potential, however, it is possible to have theoretical impaction where none in fact exists if the actual stack height is ignored. In other words, calculation of GEP stack height without benefit of a height credit sufficient to avoid this false impaction will result in a "modeled" plume impaction. Establishment of emissions limits for the source on the basis of the modeled plume impaction will require emissions limi-

⁶ *Sierra Club, et al. v. EPA*, 719 F.2d 436 (D.C. Cir. 1983).

⁷ See 719 F.2d 436, 452; Pet. App. at 31a-32a.

tations *ten times more stringent* than would be necessary if the identical facility were surrounded by flat terrain.⁸

The unreasonableness of this result was acknowledged by EPA, and, in October 1981, the Agency determined that sources should receive stack height credit when *modeled* plume impaction produced concentrations high enough to violate an NAAQS or applicable PSD increment.⁹ The wisdom of this rule and its policy did not go unnoticed by the court below. Indeed, the court admitted that from a policy perspective there was much to commend EPA's adoption of the plume impaction rule. Moreover, the court acknowledged that without the plume impaction rule, the law "discriminates harshly against utilities located in mountainous terrain, for it will require them to emit far less than their flatland counterparts." 719 F.2d at 455; Pet. App. at 38a. Then, after conceding that Congress did not "focus on, and resolve" the problems created by plume impaction, the court inexplicably sanctioned the harsh geographic discrimination by invalidating the plume impaction credit. 719 F.2d at 455, 456; Pet. App. at 37a, 39a.

Although the court described its holding as not "utterly irrational", this apologetic conclusion stands in stark contrast to the rulemaking record before the Agency which establishes that the expenditure of *billions of dollars* will be required if states are forced to establish emissions limits based upon false plume impactions.¹⁰

The elimination of the plume impaction rule not only countenances totally irrational economic discrimination

⁸ See, e.g., Environmental Research and Technology, Analysis of EPA Proposed Regulations on Stack Height Limitation (March 1979) (submitted as Appendix C to Comments of the Utility Air Regulatory Group (March 1979)) at 14-20; Pet. App. 116a-122a.

⁹ See 719 F.2d at 452; Pet. App. at 32a; 46 Fed. Reg. 49814, 49815-16 (1981).

¹⁰ See Comments of the Utility Air Regulatory Group (June 16, 1981) at 37-38; Comments of the Southern Company (May 29, 1981) at 1-2.

against existing generating facilities located in mountainous areas, in favor of identical facilities located in flat terrain, it also severely restricts the siting of new plants throughout the Western states. The irrationality of the court's decision is further evidenced by the court's own admission that under the rejected rule emissions from facilities benefiting from the plume impactation credit would still be *equal to or even less* than an identical facility located in flat terrain.¹¹

The generating facilities of these amici are spread throughout the states of Arizona, California, Colorado, New Mexico, Nevada, Texas and Utah. Many are located in valleys, on desert plateaus dotted with higher mesas, or near hills and mountains. Although their stacks are actually high enough to avoid plume impactation on these areas of elevated terrain, calculation of emissions limits at a GEP height which models a fake plume impactation will mandate retro-installation of additional costly emissions control devices, even though those additional controls would not be necessary if the facility were in a flat area. The legislative history of Section 123 is absolutely devoid of evidence that Congress intended to impose this harsh discrimination against existing facilities located in these mountainous areas. Yet, that is the result expressly sanctioned by the court below. These amici submit that this senseless discrimination cannot also be sanctioned by this Court. The petition for the writ of certiorari should be granted to correct this injustice and to reinforce the sanctity of the Administrator's exercise of discretion.

III. EPA'S DEFINITION OF "NEARBY TERRAIN OBSTACLES" IMPLEMENTS SECTION 123'S STATUTORY DIRECTIVE.

In defining the term "nearby" for purposes of establishing the existence of concentrations of emissions caused by downwash, wakes or eddies, EPA drew a distinction between

¹¹ 719 F.2d at 452 n.4; Pet. App. at 32a.

"nearby structures" and "nearby terrain obstacles". Based upon extensive data,¹² the Agency defined "nearby structures", characterized by regular sizes and shapes, by a formula: "up to five times the lesser of the height or width dimension of a structure but not greater than 0.8 km (one half mile)." 47 Fed. Reg. at 5869; Pet. App. at 100a.

Naturally occurring terrain obstacles are, however, generally larger than buildings and do not have regular sizes and shapes. Because of these geometric irregularities, EPA found that unacceptable downwash from terrain obstacles occurs at greater distances from the source and that a rigid formula simply could not satisfy the statutory directive to "insure" against excessive concentrations as a result of downwash, wakes and eddies created by nearby terrain obstacles. Accordingly, the Agency defined "nearby terrain obstacle" as one that is actually demonstrated through a fluid model or field study to be close enough to the source to cause at least a 40 percent increase in local ambient emissions concentrations due to downwash.¹³

The court affirmed EPA's definition of "nearby structures", but rejected its definition of "nearby terrain obstacles" even though it conceded that the Agency's demonstrable approach to defining terrain obstacles "might make a good deal of sense. . . ." 719 F.2d at 444; Pet. App. at 15a. Moreover, the court also acknowledged that the rejected definition "would certainly be rational" because the fluid model or field study would actually demonstrate the occurrence of excessive concentrations resulting from downwash, wakes or eddies created by the terrain obstacle. *Id.* Nevertheless, the court refused to follow the good sense, rational approach adopted by EPA because it believed Congress intended a strict interpretation of Section 123 and

¹² See GEP Guidelines at 5-15, 24-26.

¹³ 47 Fed. Reg. at 5865, 5868-69; Pet. App. 86a, 100a; GEP Guidelines at 47-48.

that it "sought to discourage utilities from locating in hilly terrain. . . ." 719 F.2d at 445; Pet. App. at 17a.¹⁴

In according overriding significance to a strict and not "utterly nonsensical" interpretation of Section 123,¹⁵ the court completely overlooked Congress' statutory directive to EPA to insure against the occurrence of excessive concentrations of emissions resulting from downwash, wakes and eddies caused by nearby terrain obstacles. The Agency's rational, but rejected definition, implemented this directive by actually identifying through demonstrations those terrain obstacles causing the forbidden excessive concentrations. Instead of this precise and accurate determination, the court opted for a rigid formula which "could conceivably be used to give credit for the height of any obstacle upwind of the stack, even though the turbulence created in the wake of those obstacles could not possibly disrupt the plume." 719 F.2d at 444; Pet. App. at 16a. What is even more ironic, however, is that by limiting the definition of nearby terrain obstacles to those within one-half mile of the source, as is the case under the court-approved rigid formula, the court is defeating its perception of Congress' intent by encouraging sources to locate within one-half mile of large terrain obstacles!

It is not the intent of these amici to flaunt congressional intent by advantageously locating new facilities immediately adjacent to complex terrain simply because a court in the District of Columbia favors a rigid formula over demonstrable impacts upon air quality. These amici believe that Congress intended a definition of "nearby terrain obstacle" that "make[s] a good deal of sense", one that "would certainly be rational", not a reading that must be described by its author as not "utterly nonsensical".

¹⁴ Location of large electric generating facilities is a complex matter, dependent upon water, coal transportation availability and proximity, airshed qualities, and geological and archaeological criteria, just to mention a few.

¹⁵ See, 719 F.2d at 445; Pet. App. at 16a.

The elimination of modeled emissions concentrations caused by terrain obstacles greater than one-half mile from the source is a costly result of the court's decision, particularly since existing stacks are physically high enough to avoid these concentrations. Here, as with plume impaction, the excessive concentrations will occur only in theory, not reality. Here, as with plume impaction, the economic cost resulting from the court's refusal to accept the Agency's exercise of discretion will be borne disproportionately by western utilities such as these amici. Here, as with plume impaction, certiorari is warranted to eliminate the harsh discrimination against the mountainous regions of the West and to reinstate the Agency's rational response to the statutory directives of Section 123 of the Clean Air Act.

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No. 82-1429

IN THE
Supreme Court Of The United States

October Term, 1984

ALABAMA POWER CO., *et al.*,
Petitioners,

v.

SIERRA CLUB, *et al.*,
Respondents.

ON PETITION FOR A WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

**MOTION OF ASSOCIATED INDUSTRIES OF
ALABAMA, INC. FOR LEAVE TO FILE BRIEF
AMICUS CURIAE AND BRIEF AMICUS CURIAE
IN SUPPORT OF PETITIONER**

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May 30, 1984

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**MOTION OF ASSOCIATED INDUSTRIES OF
ALABAMA, INC. FOR LEAVE TO FILE BRIEF
AMICUS CURIAE IN SUPPORT OF PETITIONER**

Pursuant to Rule 36 of the Rules of the Supreme Court of the United States, Associated Industries of Alabama, Inc. (hereinafter "AIA") moves this Court for leave to file as amicus curiae the accompanying brief in support of Petitioners' position in this case. This motion is made necessary because all parties to the proceedings below would not consent to the filing of this brief.

AIA is an association of business and industrial concerns throughout the State of Alabama interested in the vitality and growth of Alabama's economy. AIA appears in

this case because the decision of the lower court will have a significant and substantial negative impact upon the economic well-being of the State of Alabama, the economic opportunities available to AIA members in Alabama, and the ability of AIA members to engage in productive industrial activities at competitive prices.

The lower court's decision unnecessarily requires complicated changes to the existing system of air quality regulation which bear no relationship to the public's health and welfare, but will be very costly for AIA members and other sources. In addition, the lower court's decision needlessly imposes harsh discriminatory impacts upon sources in hilly terrain, such as found in North Alabama. The decision's deleterious impact upon these interests of members of AIA has not been and cannot be fully and adequately represented before the Court by the parties.

Upon the aforesaid justification, AIA moves this Court for leave to file as *amicus curiae* the accompanying brief.

Respectfully submitted,

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**BRIEF OF ASSOCIATED INDUSTRIES OF ALABAMA,
INC. IN SUPPORT OF PETITIONER**

**INTEREST OF THE AMICUS CURIAE
ASSOCIATED INDUSTRIES OF ALABAMA, INC.**

Associated Industries of Alabama, Inc. (hereinafter "AIA") is an association of business and industrial concerns throughout the State of Alabama interested in the vitality and growth of Alabama's economy. AIA's broad-based membership includes small businesses employing as few as two persons as well as large industrial companies with thousands of employees. One function of the association is to represent the interests of Alabama business and

industry in significant matters of public policy which affect the state's economy in such a way as to be a matter of concern to the entire business community.

AIA appears in this case because the decision of the lower court will have a significant and substantial negative impact upon the economic well-being of the State of Alabama, the economic opportunities available to AIA members in Alabama, and the ability of AIA members to engage in productive industrial activities at competitive prices. The lower court's decision unnecessarily requires complicated changes to the existing system of air quality regulation which bear no relationship to the public's health and welfare, but will be very costly for AIA members and other sources. In addition, the lower court's decision needlessly imposes harsh discriminatory impacts upon sources in hilly terrain, such as found in North Alabama. The decision below will impose upon all industry in such hilly areas much more stringent emission limitations, and concomitant higher costs, than are necessary to protect public health and welfare. Some AIA members will be directly harmed by the consequences of this decision while other members and all citizens of Alabama will suffer the economic losses inextricably associated with such a serious discriminatory impact.

AIA believes that the decision of the lower court is in error. It unnecessarily reverses a reasonable agency rule-making, and substitutes the lower court's own regulatory preference for that of the agency, a preference which imposes great costs upon AIA members, further unnecessarily complicates the determination of allowable emissions, and contradicts the purposes of Congress. AIA supports the Petition for Writ of Certiorari filed by Petitioners herein and urges the Court to review the decision of the lower court.

SUBSTANCE OF THE BRIEF AMICUS CURIAE

The brief amicus curiae herein discusses the statutory construction of § 123 of the Clean Air Act ("Act"), 42 U.S.C. § 7423 (Supp. V 1981) and the regulatory authority and interpretation of that provision by the Environmental Protection Agency ("EPA").

Under § 110 of the Act, 42 U.S.C. § 7410 (Supp. V 1981), states must adopt State Implementation Plans ("SIPs") which limit emissions from specific sources so as to ensure compliance with the National Ambient Air Quality Standards ("ambient standards") or the Prevention of Significant Deterioration ("PSD") increments. The addition of § 123 to the Act in 1977 clarified that SIP emission limitations must allow for aerial dispersion of smokestack emissions to the degree associated with a stack height consistent with "good engineering practices" ("GEP"). Under § 123, emissions from any stacks built taller than GEP height will be *assumed* to reach ground level with the greater density (less dispersion) associated with the calculated GEP height for that smokestack. This assumed GEP stack height would then be included in the computer modeling of the stack that is used to set the emission limitations. Congress assigned the task of defining GEP stack height to EPA.

EPA adopted final stack height regulations based largely upon the traditional engineering formula used to calculate the stack height necessary to avoid "downwash" from the top of the stack caused by air currents moving around buildings or other obstacles near the stack. EPA defined the statutory terms "excessive concentrations" resulting from downwash caused by "nearby structures" and "nearby terrain obstacles" consistent with traditional engineering principles and the legislative history of § 123. EPA also included a provision to deal with a computer modeling phe-

nomenon unique to air quality regulation in rugged terrain known as "plume impaction". Without this provision, the determination of GEP stack heights and related emission limitations for sources in rugged terrain will place unjustifiably severe limits upon such areas, leading to harsh discrimination against states with rugged terrain. The EPA plume impaction rule avoided an absurd result not intended by Congress and applied the § 123 mandate with fair and effective results throughout the country.

The lower court's October 11, 1983 decision set aside much of EPA's final stack height regulations and made clear that court's preference for a set of proposed regulations withdrawn by EPA in 1979 after substantial adverse public comment. The lower court also reversed EPA's plume impaction provision, which EPA adopted to prevent harsh discrimination against states with hilly terrain, and remanded other regulations to EPA, ordering the agency to promulgate new stack height regulations within six months and to require completely revised SIPs from all states within nine months after adoption of the new regulations.

On February 28, 1984, a Petition for Writ of Certiorari was filed by parties to the proceeding below. AIA has reviewed that petition and appears here in support thereof.

REASONS FOR GRANTING THE PETITION

I. The Lower Court's Opinion Dictates Stack Height Concepts That Will Severely Complicate Air Quality Regulation By Changing The Basis For State Implementation Plans From Actual To Fictitious Pollution Concentrations.

The effects on the ambient air of emissions from a specific source are calculated by means of a computer simulation or model that takes into account the stack height, stack

gas temperature, volume flow, and other variables, as well as meteorological conditions and surrounding terrain. It is by use of these computer models that regulators can estimate the effect of the emissions of a particular source on the ambient standards or the PSD increments. Thus, if the model is constructed properly, it will give a good approximation of the actual effects of the emissions of a particular source. As in any formula, however, changes in any of the variables will cause a change in the estimated effect of the source's emissions on the ambient air. Thus, if any variable is put into the computer program at an assumed figure rather than at its actual one, the estimated ambient air effect will further deviate from the actual real world effect. Stack height is one of those critical variables, and is the one at issue herein, as Congress mandated that sources be given credit for, but only for, stack heights that accorded with good engineering practice.

Historically, "good engineering practice" height or "GEP" height was a technical engineering term describing the stack height required to avoid undesirable "downwash" of emissions from the top of the stack due to turbulent air currents partially caused by surrounding structures and obstacles. Properly engineered stacks have always been and should continue to be built to GEP height in the traditionally understood sense of that term. Congress enacted § 123 of the Act with apparent reliance upon and deference to this traditional understanding of good engineering practice. Likewise, previous EPA guidance and the challenged regulations followed the engineering understanding of GEP stack height, as did state implementation of the Act. Understandably, AIA members have relied for many years upon the traditional engineering concept of GEP stack height.

The lower court rejected EPA's reliance upon the engi-

neering meaning of GEP and indicated preference for a concept of GEP stack height unrelated to engineering principles or previous EPA practices, but clearly mandating emission limitations based upon fictional stack heights significantly lower than heights justified by the traditional engineering practice. From an engineering standpoint, no source has any reason to build a stack shorter than GEP height as that term is understood in the engineering sense. Obviously, then, the lower court's decision could affect the emission limitation calculations associated with virtually every existing source by mandating that emission limitations be set utilizing computer modeling that includes an unrealistically low stack height. Depending upon the stack height and air quality fictions assumed under the court's plan for each respective source, the decision could impose massive compliance costs for many industrial concerns even though the ambient standards and PSD increments are in fact protected by the actual conditions and currently existing limitations.

The lower court's decision will require states to reevaluate emission limits for existing sources using fictitious stack height assumptions. In addition, the "assumed" data for the necessary computer modeling process must incorporate fictional stack heights for other contributing sources and false air quality assumptions related to the fictional heights imagined for existing sources in the area. Besides the obvious difficulty of creating and maintaining a compliance program for such a complex and esoteric regulatory concept, the lower court's mandate will require sources to devote environmental resources to protect against fictitious ambient concentrations rather than the pollution concentrations that people actually breathe. The cost to AIA members of complying with the regulatory program preferred by the lower court will be great and is not justifiable

under § 110, § 123, or by any relation to the public health standards of the Act.

AIA agrees with the arguments presented in the Petition for Writ of Certiorari. EPA's final stack height regulations are common sense applications of the traditional understanding of technical statutory terms used by Congress in § 123 of the Act. Most importantly, the regulations fulfill statutory purposes without yielding unreasonable or absurd results. The final regulations are a reasonable application of the statute's provisions and are within the agency's rule-making mandate and authority. The lower court has exceeded the limits of judicial review. This Court should grant certiorari and review that decision.

II. The Regulatory Plan Preferred By The Lower Court Would Impose Costly Regulatory Requirements Which Have No Relationship To Public Health And Welfare And Were Never Intended By Congress In Enacting §§ 110 Or 123 Of The Act.

The lower court's preferred regulatory program would reject the formulary approach to GEP stack height and the traditional concepts of excessive concentrations caused by downwash and instead give sources credit for only the amount of stack height necessary to avoid a violation of the ambient standards. This approach forces a false assumption as to area air quality upon all other sources and the local air quality program, *i.e.*, that the air surrounding every source is at the threshold of violating the ambient standards. This assumption bears no relation to actual air quality, the health and welfare of local citizens or the real air quality standards fixed by Congress. Nevertheless, such a false assumption could operate to establish a whole new set of *de facto* air quality standards by requiring emissions reductions or offsets from existing or new sources *as if* the ambient standards were being violated even though the

actual air meets or surpasses the ambient air quality standards prescribed by Congress.

Such imaginary air quality violations could smother industrial growth and existing industrial activity unless emission reductions or offsets could be obtained. Naturally, the cost of such offsets would be high, if available at all. Not only would such offsets have no demonstrated relationship to public health and welfare, but these new *de facto* standards would also change with future modeling changes and future changes in the emissions of any other contributing sources. For example, as background concentrations in an area decreased, a lower stack could be assumed without causing an ambient standard violation, thereby changing the basis for calculating GEP stack height under the court's decision, and hence necessitating changes in individual source emission limitations. This ever-changing system of emission standards based on false stack height assumptions has no basis in § 110 or § 123 of the Act. Maintaining consistent compliance with such regulatory system would be extremely difficult and expensive.

The court below justified its view of this matter in large part by its desire to err in favor of overall emissions reductions. Congress, however, should not be presumed to have fashioned *sub silentio* such a comprehensive change in air quality standards and regulations within the plain and relatively specific provisions of § 123. The Congressional purpose was far narrower than the purposes of the lower court. AIA believes that the lower court wholly misconstrued § 123 and its intended impact. This Court should grant the writ and review the decision below.

III. The Lower Court's Rejection Of EPA's Plume Impaction Rule Exposes Sources In Rugged Terrain To Harsh Impacts And Unreasonable Discrimination.

EPA's final stack height regulations included a provision to deal with a phenomenon unique to air quality computer modeling in hilly terrain known as plume impaction. When the emissions from a stack at a source in hilly terrain are falsely assumed to have been released from an imaginary stack shorter than the surrounding terrain, the computer simulation may reflect, albeit imaginarily, a dense and undispersed plume hitting an elevated portion of the local terrain. In reality, such a spot specific impact will not actually occur because the true stack height will be sufficient to allow the plume to pass above all nearby elevations. This phantom effect—called "plume impaction"—could literally eliminate any new sources from locating in rugged terrain areas as well as imposing exorbitant costs on sources already located in such areas.

While Congress required in § 123 that emission limitations not be based upon the dispersion associated with stack height above GEP height, Congress did not intend to discriminate against sources in rugged terrain areas. EPA's plume impaction rule allowed for modeling adjustments to avoid the imaginary spot impact associated with the imaginary stack height. With the corrective influence of the rule, the stack height regulations effectively restrict sources in rugged terrain areas to the GEP stack height credit intended by Congress, but avoid harshly discriminating against economic growth and activity in such areas based upon plume impaction that does not occur in reality. EPA has the authority to adopt regulations reasonably necessary to effectuate all of the objectives of the Act, and should implement the Act in a way that avoids harsh and discriminatory impacts not intended by Congress.

North Alabama, in the foothills of the Appalachian range, includes rugged terrain where application of the lower court's preferred regulatory program, without the corrective influence of the plume impaction rule, could have unreasonably harsh results. Left uncorrected, phantom plume impactions could require severe emissions reductions from existing sources and a virtual moratorium on new source growth. Such hilly areas could lose present and future industries and jobs to flat terrain areas where such hypothetical emissions problems are not assumed. Again, this matter has no relation to the health and welfare of local citizens or the actual air quality of an area. EPA's plume impaction rule was a simple device reasonably necessary to make the final regulations applicable to all areas without unintended discrimination.

Some of AIA's members will feel directly the harsh and discriminatory impact of the lower court's refusal to accept EPA's plume impaction rule. All AIA members will suffer indirectly by sharing in the overall negative economic impact on business and industry in the area. AIA encourages this Court to grant certiorari and review the decision of the lower court.

CONCLUSION

Because of the foregoing and the arguments contained in the Petition for Writ of Certiorari, AIA believes the decision below is in error and contrary to the intent of Congress in adopting § 123 of the Act and the authority of EPA to promulgate regulations to implement that legislation. The writ of certiorari should be granted and the decision below reviewed by the Court.

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Motion of Associated Industries of Alabama, Inc. for Leave to File Brief Amicus Curiae and Brief Amicus Curiae in Support of Petitioner, in accordance with Rule 28 of the Rules of the Supreme Court, have been served on the following parties to this action by depositing the copies in a United States post office, with first class postage affixed, addressed to the counsel of record set forth below at their post office addresses, this 30th day of May, 1984:

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**On Petition for Writ of Certiorari to the
United States Court of Appeals
for the District of Columbia**

**MOTION FOR LEAVE TO FILE A BRIEF *AMICUS
CURIAE* OF THE NATIONAL COAL ASSOCIATION AND
BRIEF OF *AMICUS CURIAE* NATIONAL COAL
ASSOCIATION IN SUPPORT OF PETITIONERS**

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OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*,
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SIERRA CLUB, *et al.*,
Respondents.

On Petition for Writ of Certiorari
to the United States Court of Appeals
for the District of Columbia

MOTION FOR LEAVE TO FILE BRIEF
AMICUS CURIAE IN SUPPORT OF
PETITION FOR WRIT OF CERTIORARI

The National Coal Association (NCA) respectfully moves, pursuant to Rule 36 of the Rules of the Supreme Court of the United States, for leave to file the attached brief *amicus curiae* in support of the Petition for Writ of Certiorari of Alabama Power Company, *et al.*, in the above-captioned case. This motion has been made necessary by the refusal of Respondents Sierra Club, NRDC, and the states that participated below on their behalf to consent to the filing of this brief.

NCA is a trade association whose members own or operate more than 50 percent of the nation's coal producing capacity. Operation of coal mines and associated facilities owned by NCA members results in emissions of several regulated pollut-

ants to the atmosphere. In addition, NCA members supply coal to many industries, including the electric utility industry.

The D.C. Circuit's opinion directly and adversely affects the interests of NCA members. First, the opinion orders EPA to develop a definition of good engineering practice ("GEP") stack height different from the historical definition that has been used by EPA and regulated industry since the early 1970s. This decision will limit industrial growth in many areas of the country, especially those with mountainous or hilly terrain, where many NCA member companies are located. As a result, the activities of NCA members will be directly affected by this decision.

Second, the decision will require electric utilities to modify or even breach long-term coal supply contracts to meet new, more stringent emission limitations which will result from the lower court's requirement that such sources conduct atmospheric modeling based upon stringent, false stack height assumptions. This will disrupt coal markets and could generally discourage the use of coal as a source of energy. The operations of NCA member companies will be adversely affected through these constraints placed upon the burning of coal by electric utilities.

A key objective of the 1977 Clean Air Act Amendments is "to encourage and facilitate the increased use of coal . . ." H.R. Rep. No. 294, 95th Cong., 1st Sess. 192 (1977). The impacts of the lower court's decision on coal markets and on the operations of NCA member companies, and the inconsistency of the lower court's decision with the congressional objectives concerning the use of this nation's coal reserves, will not be adequately addressed by the parties to the case.

NCA's attached brief provides more detail concerning its interest in the disposition of this case as well as arguments in support of Petitioners' Writ of Certiorari. Accordingly, NCA respectfully moves for leave to file this brief *amicus curiae*.

Respectfully submitted,

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IN THE
Supreme Court of the United States

OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*,
Petitioners,
v.
SIERRA CLUB, *et al.*,
Respondents.

On Petition for Writ of Certiorari to the
United States Court of Appeals
for the District of Columbia

**BRIEF OF *AMICUS CURIAE* NATIONAL COAL
ASSOCIATION IN SUPPORT OF PETITIONERS**

This brief is submitted by the National Coal Association (NCA) in support of the Petitioners. For the reasons stated in the Petition for Certiorari of Alabama Power Co., *et al.* and for the additional reasons stated herein, NCA urges the Court to grant certiorari and reverse the judgment of the United States Court of Appeals for the District of Columbia Circuit. Pursuant to Rule 36 of the rules of this Court, a motion for leave to file this *amicus* brief has been filed with the Court.

INTEREST OF NATIONAL COAL ASSOCIATION

The membership of the National Coal Association consists primarily of coal producing and sales companies, whose operations comprise more than one-half of the commercial coal production in the United States. In addition, the Association numbers among its membership equipment manufacturers,

railroads, coal exporters, and other related industries. Coal mines and related facilities owned or operated by NCA members are located throughout the United States.

Under § 110 of the Clean Air Act (CAA), 42 U.S.C. § 7410 (Supp. V 1981), states must develop implementation plans that contain emission limitations for individual sources which ensure that emissions from these sources will not cause or contribute to ground level pollution concentrations that exceed the National Ambient Air Quality Standards ("ambient standards") or Prevention of Significant Deterioration ("PSD") increments. 42 U.S.C. §§ 7410(a)(2)(A), (B), (J), 7475 (Supp. V 1981). Since the early 1970s, emission limitations in state implementation plans ("SIP") have been set to reflect ambient concentrations that will be produced if emissions from a source are released to the atmosphere through a "good engineering practice" ("GEP") stack. "GEP stack height" is an established engineering and regulatory principle, used in EPA guidelines as early as 1973 and written into the Clean Air Act by Congress in 1977 as § 123, 42 U.S.C. § 7423 (Supp. V 1981).¹

While facilities operated by NCA members are not directly subject to the "GEP stack height" provisions of the Clean Air Act since they do not have large stacks, such facilities are often located in the vicinity of industrial sources with large stacks. Accordingly, emission limitations for these NCA member facilities must be set assuming that emissions from surrounding facilities are released through GEP stacks. If GEP stack height credit rules are changed for surrounding facilities, therefore, emission limitations for these NCA member facilities may also be affected. Moreover, new development of coal reserves near facilities with large stacks could be precluded under the lower court's decision if sources subject to these rules are required to assume a GEP stack height that will result in predictions that PSD increments are entirely consumed or that ambient concen-

¹ See EPA 1973 Stack Height Guidelines, 38 Fed. Reg. 25697, *et seq.* (1973), which appear in relevant part in Appendix to Petition for a Writ of Certiorari filed by Petitioners Alabama Power Co., *et al.* at 103a-105a (hereinafter "App."); see also 41 Fed. Reg. 7450, *et seq.* (1976).

trations are at the level of the ambient standards. See Petition for Certiorari of Alabama Power Co., *et al.*, at 27 n.59; *Sierra Club v. EPA*, 719 F.2d 436, 446-450 (D.C. Cir. 1983), App. 19a-20a, 24a-27a.

A large portion of the coal produced by NCA members is consumed by the electric utility industry. The contractual relationships between NCA members and electric utilities are dictated in large part by federal environmental regulations, which require, *inter alia*, that utilities buy coal that can be burned in compliance with emission limitations established under the Clean Air Act. Since GEP stack height credit rules will influence the stringency of power plant emission limitations, changes in these rules will affect existing contracts between coal companies and utilities.

NCA's membership will be substantially and adversely affected by the opinion of the Court of Appeals for the District of Columbia Circuit in *Sierra Club v. EPA*, 719 F.2d 436 (D.C. Cir. 1983), App. 1a-69a. This decision changes the ground rules concerning "GEP stack height" credit that have been applied by EPA and the states for over a decade in formulating emission limitations, and that have served as the basis for contracts between coal companies and utilities. By rejecting the traditional engineering standard that has long applied to construction of stacks, and instead requiring that "EPA must be more stringent" than this long-established standard, *id.* at 450, App. 28a, the D.C. Circuit's decision will undermine existing state air quality programs and existing contractual relationships. Accordingly, it is critical that the Court accept this case for review.

STATEMENT OF THE CASE

Section 123 of the Clean Air Act provides that when states set emission limitations for sources constructed after 1970, they shall not allow credit for dispersion of pollution associated with stack height in excess of GEP stack height. In other words, if a

source builds a stack higher than GEP height, it must assume in setting its emission limitation that its emissions are released at the level of the shorter GEP stack, which results in higher ground level concentrations than occur in reality. Section 123 requires EPA to define "GEP stack height" by regulation. CAA § 123(a),(c), 42 U.S.C. § 7423(a), (c) (Supp. V 1981).

The term "GEP stack height" has a long engineering history. An engineering rule (a stack must equal at least 2.5 times the height of the source) has traditionally been applied to ensure that atmospheric turbulence (called "downwash") created by nearby structures and terrain will not drive an undispersed plume directly to the ground.² Downwash can cause nuisance conditions or ambient standard violations. This engineering rule was adopted by EPA in its 1973 guidelines on stack height. 38 Fed. Reg. 25697, *et seq.* (1973), App. 103a-105a. NCA members have relied upon this longstanding GEP rule in developing Clean Air Act compliance strategies, and in contracting with utilities for the supply of coal.

In January 1979, EPA proposed rules defining "GEP stack height" that departed from this traditional engineering rule. 44 Fed. Reg. 2608, *et seq.* (1979). By changing the ground rules that sources and states had used in developing compliance strategies, these proposals would have imposed tremendous burdens on the coal industry. *See infra* pp. 7-9.

In response to strong criticisms from industry and states, EPA began rethinking these rules in 1979-81, and repropoed its GEP rules in October 1981. *See* 44 Fed. Reg. 40359, *et seq.* (1979); 46 Fed. Reg. 24596, *et seq.* (1981); 46 Fed. Reg. 49814, *et seq.* (1981). The final regulations, issued in early 1982, defined the term "GEP stack height" and related technical terms (i.e., "excessive concentrations," "nearby structures," "nearby terrain obstacles") in a manner consistent with the

² *See* EPA Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations), EPA-450/4-80-023 at 7-9 (July 1981), in Joint Appendix, *Sierra Club v. EPA*, at 1080-82 (hereinafter "J.A.").

1973 guidelines and historical engineering practice. 47 Fed. Reg. 5864, *et seq.* (1982), App. 80a-102a. EPA also developed a technical atmospheric modeling rule (called the "plume impaction rule") to ensure that its definition of "GEP stack height" would be applied consistently both in areas of flat and mountainous terrain. *Id.* at 5866-67, 5869, App. 90a-94a, 100a.

By adopting the historical approach to GEP, EPA's rules would only have required revision of emission limitations at sources that had built stacks taller than could be justified from an engineering standpoint, in order to gain an unfair emissions control advantage. In other words, for sources designing stacks in accordance with traditional engineering principles used by EPA and the states since 1973, the final EPA rules would have given full stack height credit. At such sources, EPA's final rules would not have required reformulation of compliance strategies based upon false stack height assumptions. In addition, contractual commitments that had been made based on historical engineering and regulatory GEP principles would have been honored.

In October 1983, the D.C. Circuit set aside virtually every important portion of this regulatory program, and suggested that EPA reformulate its rules in a manner more burdensome than even the 1979 proposals that EPA had rejected. *Sierra Club v. EPA*, 719 F.2d 436 (D.C. Cir. 1983), App. 1a-69a. The court refused to accept EPA's reliance on the historical engineering formula to define the technical terms "GEP" and "excessive concentrations." Rather, it suggested that EPA define "GEP stack height" credit at a level that would cause atmospheric models to predict pollutant concentrations just below the ambient standards or PSD increments. *See supra* pp. 2-3. As a result, a different GEP stack height could be required for every pollutant for which an ambient standard exists (since allowable pollution levels and different background concentrations exist for different pollutants), and GEP stack height could change over time as background pollutant concentrations change.

The court also imposed serious constraints on industrial

activity in hilly and mountainous terrain by setting an arbitrary distance limit on EPA's definition of "nearby terrain obstacles," and by setting aside EPA's technical "plume impaction" rule. *Id.* at 445-46, 452-56, App. 15a-19a, 31a-39a.

ARGUMENT

Section 101(b)(1) of the Act states that the purpose of the Act is "to protect and enhance the quality of the Nation's air resources *so as to promote the public health and welfare and the productive capacity of its population.*" CAA § 101(b)(1), 42 U.S.C. § 7401(b)(1) (Supp. V 1981) (emphasis added). In other words, Congress contemplated that action taken to protect and enhance air quality would promote each of the three objectives of the Act (public health, welfare, *and* productive capacity). In implementing the Clean Air Act, EPA has specifically recognized that these objectives require a "balancing of the social and economic considerations with the environmental implications" of a rule. 39 Fed. Reg. 31000 (1974).

Congress identified the continued use and development of this nation's coal resources as a key ingredient to furthering the productive capacity of the nation. Thus, when § 123 was added to the Act in 1977, the House Committee on Interstate and Foreign Commerce noted that "[t]he committee has designed . . . the entire bill, to encourage and facilitate the increased use of coal" ³ Furthermore, the Conference agreement that resulted in the 1977 Amendments was described by the House Committee as reflecting an effort to further "the basic purposes of . . . the act, such as maximizing the use of locally available fuels." ⁴ The court below wholly ignored this legislative intent in setting aside EPA's rules. It did so even though EPA specifically confronted the effects of § 123 rules on coal reserves during the rulemaking and fashioned final rules that were consistent with the congressional purpose to facilitate coal use.

³ H.R. Rep. No. 294, 95th Cong., 1st Sess. 192 (1977), reprinted in The Environmental Policy Division of the Congressional Research Service of the Library of Congress, *A Legislative History of the Clean Air Act Amendments of 1977* (1978) at 2659 (hereinafter referred to as "1977 Legis. Hist.").

⁴ H.R. Rep. No. 364, 95th Cong., 1st Sess., 1977 *Legis. Hist.* at 510.

In a regulatory analysis of the stack height credit rules proposed in 1979, EPA recognized that its initial stack height proposals

will cause a shift in the type of coal demanded by the affected utilities. Some utilities will switch to a lower sulfur coal to comply with the regulation, while other power plants, required to install FGD systems, may be able to use a higher sulfur coal with the FGD system.⁵

Among other things, this analysis showed substantial shifts in coal production in EPA Regions III, IV, V, and VII.⁶

EPA addressed these serious, adverse impacts of the initial § 123 proposals by reproposing and then promulgating rules which were much more in line with traditional engineering and regulatory practice. In its final regulatory impact analysis, therefore, EPA concluded that the "effect on the coal market [of these final rules] is . . . less than previously predicted."⁷

NCA is concerned that the D.C. Circuit's decision, by changing the longstanding ground rules that have been used in formulating SIPs, will create needless economic burdens, administrative complexity, and confusion, contrary to the basic purposes of the Act.

First, as noted above, EPA's regulatory analysis of the 1979 proposal revealed that substantial, adverse impacts on coal markets would result from that proposal. Significantly, none of these EPA analyses took into account the additional burdens that would have been placed on sources in hilly and mountainous terrain by the 1979 proposal's failure to address the highly technical "plume impaction" issue. Accordingly, these analyses were criticized during the rulemaking as signifi-

⁵ EEA, Inc., Cost and Economic Impact Analysis of the Proposed Stack Heights Regulation at 19 (August 15, 1980).

⁶ See *id.* at 19-20, 22-23. These regions include the Appalachian and South-Central states, the Midwest, and some Western states. These potential impacts were also alluded to by EPA in reproposing stack height rules in 1981. 46 Fed. Reg. 49816 (1981).

⁷ Impact Assessment Report for the Stack Heights Regulations at 19 (April 1981).

cantly understating the shifts in demand for and production of coal that would have resulted under the 1979 proposal.⁸ Thus the lower court's decision, by rejecting the traditional GEP standard and EPA's plume impaction rule, could cause even more severe disruption of coal markets than was predicted in 1979.

Second, besides causing shifts in demand among coal producing regions and among coals of varying sulfur content, the lower court's decision would discourage the use of coal generally in favor of alternative sources of power. For example, many utilities have located plants in hilly and mountainous areas of the country in order to be close to inexpensive supplies of coal. The lower court, however, has interpreted § 123 so that it "discriminates harshly" against industrial activity in such areas of the country. 719 F.2d at 455, App. 38a. If, as the court has found in its decision on "plume impaction," plants in rugged terrain areas must meet emission limitations that are based upon artificial predictions of plume impaction, existing coal-fired plants in such areas could be rendered prohibitively expensive to operate. In addition, this decision could force the siting of new plants in flat terrain areas, increasing fuel transportation costs and thus making coal less attractive for these sources.

Third, the lower court's holding on "excessive concentrations" could require GEP stack height credit to be set at a level that would cause predictions of ambient concentrations just below the level of ambient standards or PSD increments. See *supra* pp. 2-3. If this were to occur, it could limit the production, preparation, or processing of coal at any facility located in the vicinity of a power plant subject to these rules, since the power plant would have been predicted to consume all available air quality resources. Moreover, the lower court's holding would eliminate any predictability as to the long-term coal needs of utilities, since GEP stack height and hence required emission levels would shift as background concentrations and atmospheric modeling assumptions change.

⁸ See, e.g., Comments of Ohio EPA, J.A. 1048.

Finally, none of these costs would further any demonstrated public health or welfare objective, since SIP revisions would be based not upon actual ambient concentrations that have public health and welfare implications, but upon artificial ambient concentrations predicted using false atmospheric modeling assumptions.

In sum, while Congress in amending the Act in 1977 intended to facilitate the burning of coal generally and to avoid any drastic shifts in the demand for and production of coal, the lower court's decision compels results contrary to these basic congressional objectives. The court's decision would greatly expand the role of false stack height assumptions in air quality regulation at the expense of this nation's coal reserves. EPA received comments on these issues, and took those comments into account in formulating rules that reflect traditional engineering and regulatory principles as well as the basic purposes of the Act. The lower court should have deferred to EPA's resolution of such complex, technical issues, as it has done in the past when EPA has interpreted the term "good engineering practice" under another section of the Clean Air Act.⁹

The final rules are, by the lower court's own admission, consistent with longstanding engineering and regulatory practice and with what Congress "probably had in mind." *Id.* at 457, App. 42a-43a. By rejecting these rules and requiring EPA to rewrite its § 123 program in accordance with the court's independent conclusions as to what Congress may have intended, and contrary to what Congress clearly intended with respect to the Clean Air Act's impact on coal production, the D.C. Circuit has exceeded its authority as a reviewing court. Accordingly, certiorari should be granted and the decision of the D.C. Circuit reversed.

⁹ See *Motor Vehicle Manufacturers Ass'n v. Ruckelshaus*, 719 F.2d 1159, 1167 (D.C. Cir. 1983).

CONCLUSION

For the reasons stated above, the petition for certiorari filed by Alabama Power Co., *et al.*, should be granted.

Respectfully submitted,

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IN THE
Supreme Court of the United States

October Term, 1983

No. 83-1429

ALABAMA POWER CO., et al.,
Petitioners,

v.

SIERRA CLUB, et al.,
Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE
UNITED STATES COURT OF APPEALS FOR
THE DISTRICT OF COLUMBIA CIRCUIT

MOTION OF OHIO MINING AND RECLAMATION
ASSOCIATION FOR LEAVE TO FILE BRIEF
AMICUS CURIAE IN SUPPORT OF PETITION
FOR WRIT OF CERTIORARI
AND
BRIEF AMICUS CURIAE IN SUPPORT OF
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IN THE
Supreme Court of the United States
October Term, 1983

No. 83-1429

ALABAMA POWER CO., et al.,
Petitioners,

v.

SIERRA CLUB, et al.,
Respondents.

MOTION FOR LEAVE TO FILE BRIEF *AMICUS*
CURIAE IN SUPPORT OF PETITION
FOR WRIT OF CERTIORARI
AND
STATEMENT OF INTEREST OF *AMICUS CURIAE*

The Ohio Mining and Reclamation Association (OMRA) respectfully moves the Court for permission to file the attached brief *amicus curiae* in support of the Petition for a Writ of Certiorari. The Interest of OMRA in this case is set forth below.

I. STATEMENT OF INTEREST OF *AMICUS CURIAE*

OMRA is a trade association whose members are Ohio coal producers. Ohio is a major coal producing state, with 21.5 billion tons of bituminous high sulfur coal reserves concentrated in 23 eastern counties. Nearly all of Ohio's coal is produced by OMRA member companies.

Approximately 85% of Ohio coal is sold to electric utility companies to be used in the generation of electricity. The coal industry in Ohio and other Appalachian states has been severely impacted by, and is very sensitive to, implementation of the Clean Air Act. Total Ohio coal production has dropped precipitously from a peak

of 55,136,699 tons in 1970, to 33,209,000 tons in 1983.¹ At 1983 prices, this decline represents a direct loss of over \$613 million to Ohio coal mining communities, not counting "ripple effect" losses. A study by the United States Environmental Protection Agency (EPA) found that Ohio lost 6.76 million tons (\$190 million) of annual coal production solely as a result of electric utility "coal switching" (from Ohio coal to relatively lower sulfur coal produced in other states) to comply with sulfur dioxide (SO₂) limitations imposed under the Clean Air Act in 1976 and 1977.²

The cost of this decline in production measured in terms of jobs lost has been tremendous. The EPA study, which focused only on the effects of the loss of 4.05 million tons of annual coal production attributable to coal switch-

¹The following table, compiled from OMRA statistics, shows the extent to which total Ohio coal production has declined steadily since the Clean Air Act of 1970 was enacted and over time as it has been amended and implemented.

<u>Year</u>	<u>Production</u>
1970	55,136,699
1971	49,016,773
1972	50,577,531
1973	45,666,478
1974	45,074,596
1975	46,167,203
1976	46,803,891
1977	46,940,131
1978	40,094,185*
1979	43,527,651
1980	40,030,424
1981	36,833,359*
1982	36,906,301
1983	33,209,000

*Portion of decline due to United Mine Workers strike.

²See, Reproposed Determination Under Subsection 125(a) of the Clean Air Act; Availability of Coal Use, Economic and Unemployment Impact Information, 46 Fed. Reg. 8106 (January 26, 1981).

ing by Ohio utilities, found that the lost production would result in the loss of 1,890 coal mining jobs. In addition, EPA found that the direct loss of coal mining jobs would have a "ripple effect" resulting in an even greater loss of jobs in other related sectors of employment. According to the study, the "unemployment attributable to the actual and projected Ohio power plant SO₂ compliance coal switch estimated by EPA would amount to between 4,725 - 5,480 jobs statewide."³ Even more significantly, the EPA study found that 4,252 - 4,915 jobs would be lost in the 23 county southeastern Ohio coal producing area — an economically deprived Appalachian area that struggles with chronic hard core unemployment in an economy entirely dependent on coal mining. A similar state of affairs is certain to exist in Appalachian coal communities outside Ohio.

It is against this background that OMRA has cause to be especially concerned about the grave impact of the lower court's decision on both existing coal supply contracts and the prospects for future markets for Ohio coal.

The demand for Ohio coal is acutely sensitive to changes in SO₂ emission limits. SO₂ emission limits established for Ohio utilities in 1976 and 1977 were determined through modeling that was based on the then-prevailing EPA "good engineering practice" ("GEP") standard of 2.5 times building height. A reduction in credit given for stack height will reduce emission limits. As the lower court acknowledged, the "burden" created by changing the rules as to stack height may lead utilities to "renegotiation of contracts in order to purchase coal with lower sulfur content." *Sierra Club v. EPA*, 719 F.2d 436, 468 (D.C. Cir. 1983).⁴ In view of the fact that it is not eco-

³*Id.* at 8109.

⁴Coal supply contracts now regularly include provisions which permit the utility purchaser to terminate the contract if it is unable to burn the coal produced in compliance with applicable SO₂ regulations. See generally, 4 Coal Law and Reg. § 84.04[7] (1983).

nomically or technologically feasible to reliably blend coals with different sulfur contents to achieve an acceptable average, even marginal reductions in emission limits threaten termination of entire coal supply agreements. Consequently, reductions in emission limits compelled by the lower court's rejection of the 2.5 rule are likely to come directly at the expense of further losses to the Ohio coal industry.⁵ Similarly, the lower court's rejection of EPA's "plume impaction" rule and its restrictive definition of "nearby" as it relates to terrain obstacles can only lead to further reductions in emission limits, and thereby the demand for Ohio coal, by sources located in or near rugged Appalachian terrain.

Ohio utilities alone have already spent \$1.8 billion for air pollution controls, more than utilities in any other state and half a billion dollars more than utilities in the second-ranking state.⁶ Compliance strategies, and related coal supply contracts, have been developed

⁵Illustrative of the devastating effect of coal switching and the resulting mine closings is the impending closing of the Sunnyhill Mine in New Lexington, Ohio. The Michigan Air Pollution Control Commission has ordered Consumers Power Company of Jackson, Michigan to begin burning low sulfur coal in order to comply with SO₂ emission limits established under the Michigan plan to implement section 110 of the Act. Unless an extension of the time within which Consumers Power must bring its SO₂ emissions into compliance is obtained, the Sunnyhill Mine, which supplies 1.5 million tons of coal annually to Consumers Power (ninety percent of its total production), will be closed. The result will be the immediate loss of 500 coal mining jobs, the loss of hundreds of other jobs through the "ripple effect," a dramatic drop in local government revenues, and serious disruption of the local school system. See, Columbus Dispatch, December 25, 1983.

⁶Department of Energy, Energy Information Administration, Publication No. DOE/EIA-0437(1982), Financial Statistics of Selected Electric Utilities for 1982 (1984).

and entered into on the basis of emission limits established in reliance on the traditional 2.5 times building height GEP stack height formula. The lower court's rejection of EPA's stack height regulations threatens a catastrophic unraveling of an existing interdependent system of pollution control strategies and coal supply agreements.

Not only does the decision of the court below threaten existing sales of Ohio coal, but it also threatens to forever foreclose new markets. As discussed above, the threat to existing coal production comes from the fact that existing power plants will likely comply with reduced emission limits by switching to lower sulfur coal. The threat to new markets for Ohio coal comes from the fact that the lower court's decision will result in artificially induced emission limits so low that Ohio coal cannot be burned even with the best available control technology. As then EPA Administrator Douglas Costle explained, new source SO₂ emission limits for power plants were intentionally set by EPA at the lowest level that was obtainable by burning high sulfur coal with the use of control technology capable of achieving a 90% reduction in emissions:

Regarding the maximum emission limit, EPA had to determine a level that was appropriate when a 90% reduction in potential emissions was applied to high-sulfur coals. Towards this end, the staff performed detailed assessments of the potential impacts of a wide range of emission limitations on high-sulfur coal reserves. The results revealed that a significant portion (up to 22%) of the high-sulfur coal reserves in the East, Midwest, and portions of the Northern Appalachian coal regions would require more than a 90% reduction if the emission limitation was established below 1.2 lb/million Btu (30-day rolling average).

• • •

Accordingly, EPA concluded the emission limitation should be maintained at 1.2 lb/million Btu (30-day rolling average). A more stringent emission limit would be counter to one of the basic purposes of the 1977 Amendments, that is, encouraging the use of higher sulfur coals.⁷

When compared to the EPA regulations, the lower court's decision produces greater artificial exaggeration of ambient air quality impacts of proposed new sources,⁸ and greater artificial reductions in the margin of growth available before ambient air quality standards or prevention of significant deterioration increments are exceeded.⁹

⁷D. Costle, *New Source Performance Standards for Coal-Fired Power Plants*, 29 J. Air Poll. Contr. A. 690, 691 (1979).

⁸The decision of the court below dictates that, for the purpose of calculating Clean Air Act emission limits, source stacks be fictitiously shortened to a greater extent than prescribed by EPA's regulations and the traditional 2.5 times building height GEP formula. The more a stack is fictitiously shortened, the higher will be the imaginary concentration of the relevant "worst case" predicted ambient air quality impact of the source. The higher the predicted impact, the lower the allowable emission rate.

⁹For most areas of the country, there is a finite margin by which actual air quality is better than the National Ambient Air Quality Standards. The decision of the court below has the effect of fictitiously worsening air quality for purposes of EPA's standard-setting bookkeeping. The resulting fictitious smaller margin between predicted air quality and the National Ambient Air Quality Standards means less "room" to accommodate even a small amount of growth in emissions from new sources.

Similarly, the decision below skews EPA's bookkeeping of the consumption of the significant deterioration increments set forth in section 165 of the Act, 42 U.S.C. § 7465, and thereby locks out a portion of the new source growth that could have been accommodated under the regulations that were set aside.

Thus the decision below artificially decreases the room available to accommodate new sources, and, as explained in the preceding footnote at the same time artificially increases the room "occupied" by new sources.

As a result many new power plants will be subject to emission limits more stringent than the 1.2 lb/million Btu new source performance standard,¹⁰ thereby effectively prohibiting their use of higher-sulfur coal. Indeed, the artificially determined emission limits that result from the lower court's decision will be so low in some cases that new source construction will be foreclosed entirely.

Equally significant, but not addressed by the lower court, is the adverse impact on future markets for Ohio coal of the rejection of EPA's uniform and predictable GEP formula, which the lower court conceded Congress "probably had in mind," 719 F.2d at 457. Electric utilities and other potential consumers of Ohio coal require long-term fuel supply commitments (often ten years or more)¹¹ which require very large capital commitments by the coal producer. Hence, the lower court was seriously mistaken in its simplistic assumption that the only justification for a GEP formula is that it is "simpler and cheaper," 719 F.2d at 456, to apply. Much more important is the fact that only a fixed "formula" approach to determining GEP provides the stability and predictability necessary if Ohio coal producers and their potential customers are to undertake the long-range planning and huge capital commitments that are required to enter into long-term coal supply contracts.

The lower court's rejection of a GEP formula makes it impossible to determine the amount of stack height credit available at a given site, and thus the SO₂ emission limits for that site, in advance of a modeling demonstration. Moreover, the decision below renders GEP stack height, once established, subject to revision and variation

¹⁰Generally section 110 of the Act, 42 U.S.C. § 7410, prohibits ambient air quality standards from being exceeded and section 165, 42 U.S.C. § 7465, prohibits prevention of significant deterioration increments from being exceeded.

¹¹EPA regulations require that utilities provide proof of a ten year supply of "compliance" coal. *See, e.g.*, 40 C.F.R. § 52.1882 (a)(4) (iii)(A) and (B).

as modeling assumptions change.¹² The resulting uncertainty will discourage new sources from entering into long-term contracts for Ohio coal supplies and will, instead, pressure them to locate in or seek coal supplies from other areas.

¹²Computer models used by EPA to simulate the dispersion of pollutants in the ambient air require hourly meteorological data (wind speed, wind direction, and atmospheric stability), source emission characteristics (stack height, and the temperature, velocity, and mass of emissions), and topography as input. The model calculates hourly pollutant concentrations at each of hundreds of "receptors" carefully selected to locate the worst case impact from a single source and the worst case cumulative impact from all sources that interact. The identifiable impacts of all interacting sources are added to the background concentration to give the total predicted pollutant concentration at all receptors.

The input variables that determine the model output are subject to constant change. Meteorological conditions vary all the time, new emission sources are established and old ones retired over time, and pollutant background concentrations vary from one time to another and one place to another. Moreover, modeling methodology, formulas, and policies are themselves subject to frequent change by EPA, and on occasion by the courts.

By requiring that "excessive concentrations" for purposes of defining allowable stack height credit under section 123 be determined on a case by case basis, the lower court has rendered determinations under section 123 subject to all the vagaries of air quality computer modeling as exacerbated by the use of intentionally false input data. As a consequence, the court below made GEP into a moving target that will change with each different modeling analysis that is conducted.

The Clean Air Act exposes a source to frequent modeling analyses even though nothing has changed at the source since the last modeling analysis. A proposal to locate a major new source within interacting range of an existing source requires modeling of the proposed new source *and* interacting existing sources at their GEP stack height. *Alabama Power Co. v. Costle*, 636 F.2d 323, 388-94 (D.C.Cir. 1979). Also, whenever a State seeks to redesignate an area as attainment under Section 107 of the Clean Air Act, 42 U.S.C. § 7407, EPA usually requires a modeling analysis to justify the redesignation.

II. CONCLUSION

OMRA seeks the Court's permission to submit its brief *amicus curiae* in support of the Petition for a Writ of Certiorari in order to demonstrate that the conclusions reached by the lower court fly in the face of one of the central objectives of the Clean Air Act Amendments of 1977 — to improve air quality without creating a disruption in existing energy markets and without giving one region of the Nation an advantage over another with respect to industrial development. Indeed, as explained in the attached brief, Congress included provisions in the 1977 amendments for the specific purpose of encouraging the use of domestic coal supplies, particularly including the medium and high sulfur coals found in Ohio and other Eastern and Midwestern states, in a way that would not compromise the basic health and welfare goals of the Act. The decision of the court below wholly ignores, and raises serious obstacles to the accomplishment of, this plainly expressed Congressional objective. OMRA's member companies are among those who are the most adversely affected by the decision below.

Accordingly, this Motion for Leave to File Brief *Amicus Curiae* in support of the Petition for a Writ of Certiorari should be granted.

Respectfully submitted,

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May 30, 1984

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The filing of the foregoing motion has been necessitated by the refusal to give consent of the Natural Resources Defense Council, the Sierra Club, and the States of New York and Pennsylvania.

IN THE
Supreme Court of the United States

October Term, 1983

No. 83-1429

ALABAMA POWER CO., et al.,
Petitioners,

v.

SIERRA CLUB, et al.,
Respondents.

BRIEF AMICUS CURIAE OF THE
OHIO MINING AND
RECLAMATION ASSOCIATION
IN SUPPORT OF PETITION FOR
A WRIT OF CERTIORARI

I. INTEREST OF AMICUS CURIAE

The interests of the *amicus curiae* are set forth in the attached Motion for Leave to File Brief *Amicus Curiae*.¹

II. INTRODUCTION AND SUMMARY OF
ARGUMENT

In rejecting EPA's regulations, the court below interpreted section 123 of the Clean Air Act in a manner squarely in conflict with one of Congress' principal objectives — to encourage the use of the Nation's abundant coal resources without sacrificing sound environmental goals. As the discussion below demonstrates, Congress was keenly aware of the potential impact of the Act on the demand for coal, particularly the medium and higher sulfur coals

¹The motion and brief together do not exceed applicable page limits for briefs *amicus curiae*. See, Supreme Court Rule 36.1.

found in the East and Midwest. Congress was similarly aware that there was a potential for the Act to create a bias, not only in the demand for fuel supplies, particularly coal, but also for the creation of advantages for one region of the Nation over another with respect to future industrial growth. In response to these concerns, Congress inserted provisions in the Act expressly intended to neutralize the bias towards lower sulfur coal, and the location of new emission sources in regions where such coal is found, by eliminating incentives for new pollution sources to switch to the lower sulfur coals as a means of reducing SO₂ emissions. The decision below, by interpreting section 123 in a manner which it acknowledges may force utilities burning higher sulfur coal to switch to lower sulfur coal, *Sierra Club v. EPA*, 719 F.2d 436, 468 (D.C.Cir. 1983), and by instructing EPA to promulgate new regulations which "err on the side of reducing stack height" in order to further reduce emissions, 719 F.2d at 450, has turned these important Congressional objectives on their head.

III. ARGUMENT

When Congress set about the enactment of the Clean Air Act Amendments of 1977, it had before it the benefit of experience gained during seven years of implementation of the Clean Air Act of 1970. Based on this experience Congress was particularly concerned that "new source performance standards" for power plants promulgated by EPA up to that time had not achieved several objectives sought in 1970 and had, in fact, "sometimes had very different, almost opposite, results."² The House Report identified six respects in which EPA's new source per-

²H.R. Rep. No. 294, 95th Cong., 1st Sess. 93, 187 (1977), reprinted in, The Environmental Policy Division of the Congressional Research Service of the Library of Congress, *A Legislative History of the Clean Air Act Amendments of 1977*, 2560 (1978) (hereinafter referred to as "1977 Legis. Hist.").

formance standards had produced results in conflict with earlier established Congressional objectives, three of which are directly relevant here:

1. The standards give a competitive advantage to those States with cheaper low-sulfur coal and create a disadvantage for Midwestern and Eastern States where predominantly higher sulfur coals are available;
2. These standards do not provide for maximum practicable emission reduction using locally available fuels, and therefore do not maximize potential for long-term growth;
3. These standards do not help to expand the energy resources (this is, higher sulfur coal) that could be burned in compliance with emission limits as intended.³

The House Report reflects its conclusion that the problem with the new source performance standards stemmed from the fact that under existing regulations new coal-burning sources could comply with SO₂ emission limits (1.2 lbs per million Btu heat input) either by burning low sulfur coal or by installing costly "best available control technology."⁴ Most sources, particularly utilities, chose the less expensive alternative presented by low sulfur coal. The result was a significant bias in the national energy markets in favor of low sulfur coal as a fuel. The House Report explained the problem:

Present new source performance standard regulations do not require use of any pollution control technology when a source burns very low-sulfur coal. While this promotes the use of low-sulfur coal and drives up the price of the coal, it means that billions of tons of medium- and high-sulfur coal (lo-

³*Id.*, at 187.

⁴*Id.*, at 186.

cated predominantly in the Midwestern and Eastern United States) remain in the ground, unmined. Of course, many new plants are taking advantage of this weakness in present regulations by either hauling low-sulfur coal great distances to use in new plants or by actually relocating their plants near new low-sulfur coal reserves. In this way, they escape requirements for pollution control technology while vast reserves of high- and medium-sulfur coal — particularly in the East and Midwest — are going unused. The mining industry of those regions stagnates and industrial migration of other plants is threatened.⁶

To neutralize the bias which had been created in favor of low sulfur coal Congress elected to require that all new sources install the best available control technology and to require that all emissions be reduced by some percentage to be established by EPA regardless of the fuel burned. As a result, installation of best available control technology could no longer be avoided by burning low sulfur coal as a means of meeting new source performance standards.

In a statement to the House Subcommittee, then EPA Administrator Costle endorsed Congress' new source performance standard strategy as a method of simultaneously achieving the objectives of reducing emissions, increasing utilization of medium and high sulfur coals, and avoiding the drastic adverse economic consequences that would be visited on some regions as a result of a shift toward low sulfur coal.

We support the provision in the House bill requiring that new sources use best available control technology (BACT) considering cost, energy, environmental, and health impact.

First, we will more effectively limit the increased emissions resulting from greater coal utilization. Second, we will use less of our air quality resources for

⁶*Id.*, at 166.

each new facility, thereby allowing more growth within the constraints of air quality requirements. Third, the BACT requirement will encourage powerplants to use locally mined high and medium sulfur coal instead of bringing in low sulfur coal from other regions.

This will avoid much of the regional unemployment and economic disruption that would result from greater reliance on low sulfur coal rather than on control technology. Finally, the BACT requirement will minimize the overall atmospheric loading of pollutants in our environment.⁶

Significantly, Congressional action on the Clean Air Act Amendments of 1977 also coincided with and intentionally complemented President Carter's National Energy Plan, in which increased utilization of the country's huge coal reserves played a major role.

Coal development and production is most economical when it is near major markets. Although coal production will expand in many areas, there should be large production increases in the highly populated Eastern and Mid-West regions, where coal use in industry and utilities could grow considerably in the future. The required use of best available control technology for new power plants should stimulate even greater use of high sulfur Mid-Western and Eastern coals.⁷

Thus Congress sought and was able to serve still another objective — reduction of the Nation's dependence on imported oil — by encouraging the use of Eastern and Mid-western high sulfur coal without compromising its en-

⁶Clean Air Act Amendments of 1977: Hearings on H.R. 4151, H.R. 4758, and H.R. 4444 before Subcomm. on Health and the Environment of the House Comm. on Interstate and Foreign Commerce, 95th Cong., 1st Sess. 1678 (1977).

⁷Executive Office of The President, National Energy Plan 65 (1977).

vironmental mission. The House Report makes clear that a primary purpose of the Clean Air Act Amendments of 1977 was to increase the use of coal, including medium and high sulfur coal, to serve national energy goals.

The committee has designed this section and the entire bill, to encourage and facilitate the increased use of coal, and to reduce reliance (by old and new sources alike), upon petroleum to meet emission requirements (sic). * * * In fact, the committee anticipates that economic factors actually will dictate the use of coal. Thus, the committee proposal will provide strong, positive incentives for new sources to forego the use of oil as a means of complying with State plan requirements, in favor of more abundant, less expensive domestic coal. * * * As a result, millions of tons of coal, including currently unutilized medium and high sulfur reserves in the East and Midwest, will be burned by new sources which will use the best available technology to meet new source performance standards and State plan emission requirements."

In short, it is plainly apparent that one of the most important objectives of the Clean Air Act Amendments of 1977 was to correct a bias that had been created by implementation of the Clean Air Act of 1970 in favor of low sulfur coal, and to encourage the use of local coal reserves, particularly the medium and high sulfur coal found in the East and Midwest. It is difficult to imagine a construction of section 123 which would place it more at odds with the accomplishment of Congress' goal than that of the court below.

The Ohio coal industry today produces 14 million fewer tons of coal on an annual basis than it did in 1977. Indeed, the loss of coal production since 1977 has been even greater than the loss that occurred between 1970 and 1977 which Congress sought to reverse through the

^a*Legis. Hist.* at 192-193.

Clean Air Act Amendments of 1977. By limiting the focus of its review much too narrowly, and by substituting its judgment for that of EPA, the court below has dealt this already struggling industry a crushing blow squarely in conflict with plainly expressed Congressional intent.

IV. CONCLUSION

For this reason, and those set forth in the Petition of Alabama Power Co., *et. al.*, and the response of Kenne-cott, *amicus curiae* Ohio Mining and Reclamation Association respectfully urges the Court to grant *certiorari* and reverse the decision of the court of appeals.

Respectfully submitted,

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No. 83-1429

IN THE
SUPREME COURT OF THE UNITED STATES
OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*

Petitioners,

v.

SIERRA CLUB, *et al.*,

Respondents.

MOTION FOR LEAVE TO FILE BRIEF
AMICUS CURIAE

and

BRIEF OF AMICUS CURIAE THE PROCTER &
GAMBLE PAPER PRODUCTS COMPANY IN
SUPPORT OF A PETITION FOR A WRIT OF
CERTIORARI TO THE UNITED STATES COURT
OF APPEALS FOR THE DISTRICT OF
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IN THE
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ALABAMA POWER CO., *et al.*,

Petitioners,

v.

SIERRA CLUB, *et al.*,

Respondents.

MOTION FOR LEAVE TO FILE BRIEF
AMICUS CURIAE

The Procter & Gamble Paper Products Company (hereinafter "Procter & Gamble") respectfully moves pursuant to Rules 36 and 42 of the Rules of the Supreme Court of the United States for leave to file the attached Brief *Amicus Curiae* in this case.

The written consent of the Petitioners has been obtained and has been filed with the Clerk of this Court. The consent of the Respondents Sierra Club, Natural Resource Defense Council, and the states that participated below on their behalf was requested but has been refused.

Procter & Gamble requests that this motion be granted because the decision by the Court of Appeals invalidating certain of EPA's stack height regulations threaten to adversely affect at least one of the company's manufacturing plants, and the company therefore has a strong interest in the disposition of this case. The company represents

a different type of industrial facility than the parties herein, and believes that the views submitted in the attached brief concerning the impact of the lower court's decision on its efforts to comply with the Clean Air Act will be of assistance to the Court.

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I.

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II.

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No. 83-1429

IN THE
SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1983

ALABAMA POWER CO., *et al.*,
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SIERRA CLUB, *et al.*,
Respondents.

**BRIEF OF AMICUS CURIAE THE PROCTER &
GAMBLE PAPER PRODUCTS COMPANY IN
SUPPORT OF A PETITION FOR WRIT
OF CERTIORARI**

The Procter & Gamble Paper Products Company ("Procter & Gamble") respectfully submits this Brief as *amicus curiae* in support of the Petition for Writ of Certiorari to review the judgment of the United States Court of Appeals for the District of Columbia Circuit in *Sierra Club, et al. v. EPA*, 719 F.2d 436 (D.C. Cir. 1983).

INTEREST OF THE AMICUS CURIAE

Procter & Gamble produces household consumer paper products such as kitchen towels, and facial and bathroom tissue. One of the Company's plants is subject to emission limits set forth in a state implementation plan¹ which

¹Wisconsin Administrative Code, §NR 154.12(7).

was developed by a cooperative effort between local industry and the state and federal regulatory authorities over a period of more than five years. This plan relies in part upon the stack height regulations² promulgated by the Environmental Protection Agency (EPA) under the Clean Air Act.³ Since those regulations were set aside by the court below, that implementation plan is now in jeopardy. If the implementation plan is also eventually set aside, not only will the extensive efforts underlying its development be negated, but the probable cost to the company and other participants in the state implementation plan will be many millions of dollars.

SUMMARY OF ARGUMENT

In rejecting the "good engineering practice" regulations promulgated by EPA, which regulations reflected a reasonable interpretation of §123 of the Clean Air Act, the Court of Appeals improperly substituted its judgment for that of the EPA. The resulting adverse impact of the decision on industry will be substantial. Industrial facilities face the prospect of being forced to undertake exceedingly costly efforts to reduce air emissions in circumstances where the protection of the public health and welfare has already been assured. As explained hereinafter, Procter & Gamble faces just such a situation, where the decision threatens the continued existence of an effective implementation plan which was developed at great expense over a period of years in compliance with the Clean Air Act. Such a result cannot be justified under the Act.

ARGUMENT

The decision by the Court of Appeals, if left standing, will significantly and adversely affect numerous industrial

²47 Fed. Reg. 5864 *et seq.* (1982); 40 C.F.R. §§51.1(z), (ff)-(mm), 51.12(j)-(1), and 51.18(1) (1983).

³42 U.S.C. §§7401, *et seq.* (Supp. V 1981) (hereinafter referred to as the "Act"). (All further citations will be to the Act, with parallel citations to the U.S. Code given in the Table of Authorities.)

air emission sources throughout the country. While the regulations in question may appear at first blush to be but peripheral technical minutiae, they in fact go to the very heart of the manner in which compliance with the Clean Air Act can be achieved. The subject regulations prescribe how one of the critical variables — stack height — is to be taken into account by the regulatory authorities in establishing limitations for air emission sources. The emission limitations are in turn set at a level to ensure attainment of the federal National Ambient Air Quality Standards ("NAAQS"), which were designed to protect the public health and welfare.⁴ When establishing an emission limit for a particular source, the regulatory agency must consider the rate of emissions as well as the location of the point of discharge — or more accurately, the stack height credit calculated pursuant to the subject regulations — in order to ascertain the impact on ambient concentration levels. Since the thrust of the decision by the Court of Appeals is that any such credit must be minimized, many current state implementation plans will have to be revised, with the result that affected industrial sources may have to incur considerable expense to reduce emissions even when current ambient concentration levels pose no threat to the public health and welfare.

Historical engineering practice generally provided that stacks were to be $2\frac{1}{2}$ times higher than the building height in order to avoid downwash problems. As explained by the Court of Appeals, the response by some companies

⁴Section 109 of the Act requires the promulgation of national primary ambient air quality standards ("primary standards") and national secondary ambient air quality standards ("secondary standards"). The primary standards are ambient standards "the attainment and maintenance of which in the judgment of the [EPA] Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect public health." §109(b)(1). The secondary standards "shall specify a level of air quality the attainment and maintenance of which . . . is requisite to protect the public welfare" §109(b)(2).

to the Clean Air Act amendments of 1970 was to build stacks taller than historical engineering practice in order to minimize or avoid the need to reduce emissions. *Sierra Club v. EPA*, 719 F.2d 436, 439 (D.C. Cir. 1983). The response by Congress to that practice was provided in 1977 by §123 of the Clean Air Act, prompting the Court of Appeals to correctly conclude that "the entire purpose of the statute was to remedy an abuse that had arisen whereby polluters were building stacks solely to evade Clean Air Act requirements" *Id.* at 447. However, in sharp contrast to such a limited purpose underlying §123, the expansive reading of that section by the D.C. Circuit imputes to Congress an intent to create a detailed and stringent emission reduction program which 1) places major new administrative burdens on state regulatory agencies, 2) requires the use of fictitious data in calculating and establishing emission limitations, and 3) retroactively threatens or reduces the stack height credit to be given for stacks which were built or raised in accordance with historical engineering practice after 1970. If Congress had in fact intended to create such drastic and fundamental changes, the language employed would certainly have been clearer and more direct than that used in §123.

In rejecting key provisions of EPA's "good engineering practice" (GEP) regulations, the Court of Appeals announced that "two precepts" represented "the heart" of its interpretation of §123: 1) the historical "conservative" engineering rule which EPA had previously embraced — the $2\frac{1}{4}$ times building height rule — was irrelevant, and 2) EPA must err on the side of reducing stack height. *Id.* at 450. However, neither of these principles finds any persuasive basis of support in the Act or legislative history, and in fact they fly in the face of the statutory command that GEP regulations "insure" against unacceptable downwash. As set forth in Petitioners' brief, the D.C. Circuit in this case substituted its judgment for that

of the EPA, and in so doing, improperly failed to accord adequate weight or deference to the reasonable interpretation of the statute by the agency which was specifically charged with implementing it. The resulting severe, adverse impact of this decision on the states and industry in attempting to comply with the requirements of The Clean Air Act is illustrated by the following case history.

In October 1980, an area in Wisconsin which included the City of Green Bay was designated by EPA as non-attainment⁴⁵ for the primary 24-hour NAAQS for sulfur dioxide.⁴⁶ However, almost two years prior to that time, Procter & Gamble and five other companies located in the Green Bay area recognized that problem and initiated a voluntary, joint effort to assist the state in the development of a reasonable implementation plan in compliance with the requirements of the Act. This ad hoc industry group retained an environmental consulting firm to conduct the necessary computer modeling to show the anticipated impact of the numerous multi-plant operating variables on the ambient air. The group and its consultant worked closely with the EPA and the state agency, the Wisconsin Department of Natural Resources, to ensure that the resulting plan met all federal and state requirements. The implementation plan which ultimately resulted from this effort was shown to be capable of achieving the applicable ambient standard primarily as a result of commitments by the group members to use lower sulfur content fuel and, for certain facilities, to build new "good engineering practice" height stacks in accordance with the EPA regulations at issue here. In December 1983, this implementation plan was adopted by the State of Wisconsin⁴⁷ and has been forwarded to EPA for its approval.

⁴⁵45 Fed. Reg. 67348 *et seq.* (Oct. 10, 1980).

⁴⁶40 C.F.R. 150.4 (1983).

⁴⁷See footnote 1 and accompanying text.

The work which went into the development of the so-called Green Bay sulfur dioxide implementation plan has been informally acknowledged by EPA as representing one of the most comprehensive and exhaustive efforts to date in the development of a state implementation plan. It is estimated that the total expenditure by the industry group for developing its plan was about \$1 million. The cost for the consultant's modeling work alone exceeded \$500,000. In addition, an enormous amount of time and effort was devoted by representatives from both the regulatory agencies and industry toward the end of bringing the quality of air in Green Bay into compliance with the standards of the Clean Air Act.

The results of this successful effort are now in jeopardy because of the ruling by the D.C. Circuit. By casting aside the traditional engineering concept of "GEP" stack height that had been applied by both industry and regulatory agencies in this effort, the lower court's decision could require reformulation of the requirements of this plan based on false stack height assumptions. The time, effort and money spent by industry and the various governmental agencies over the past five years may now have to be totally discarded.

The disruption and confusion injected into the air quality planning process by the lower court's decision provides no commensurate benefit in terms of furthering the statutory goal of protecting public health. The Green Bay plan which the industry group helped develop will attain the primary NAAQS, which, by definition, means that the protection of public health in Green Bay is assured.* Since that area is now projected to be attainment for sulfur dioxide as a result of the current implementation plan, there is simply no reason why that plan

*See footnote 4.

should be changed or revised except for the excessively broad reading of the Act by the D.C. Circuit.

If the ruling below requires that the sulfur dioxide issue be reopened in Green Bay, there will almost certainly be severe economic consequences to that community. During the course of developing the current plan, the estimated compliance costs for the six affected companies over a seven year period was \$52 million. If stack height must now be assumed to be lower than it is in reality, substantial additional control measures could be required.

In order to develop some insight into the potential magnitude of these costs, it is useful to refer to an alternative plan that was considered at the same time the existing plan was developed. This alternative would have involved additional emission controls, including scrubbing by at least one of the affected facilities. The added, or incremental, cost to the group of this alternative control plan was estimated by the industry group to require expenditures of slightly more than \$26 million annually. According to an economic consultant retained by the industry group, National Economic Research Associates, Inc. (NERA), this cost differential translated to a reduced rate of employment growth in the Green Bay area in future years. NERA also confirmed that the voluntarily-developed plan which has now been adopted is the most cost effective plan available. The alternative plan which would increase the costs of the six companies to do business in Green Bay by millions of dollars per year would constitute a significant and unwarranted economic penalty, based solely on the requirement that these facilities assume a false stack height in air quality modeling analysis. This result would serve no public health or welfare objective, and cannot be justified under the Clean Air Act.

CONCLUSION

For the reasons stated, the Petition for Certiorari should be granted.

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